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**Bonus pay, organisational justice and turnover intention: research  
into affective, social exchange relationship and social comparison  
processes**

Ian Hoare

Thesis submitted to the University of London in fulfilment of the requirements of the  
degree of Doctor of Philosophy

Department of Organizational Psychology  
Birkbeck College  
University of London

Submitted April 2020

Awarded April 2021

## Confirmation

This page is provided as confirmation that the entire work presented in this thesis is the result of my own efforts.

Ian Hoare  
3<sup>rd</sup> April 2020

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## Abstract

This thesis examines the relationships between bonus pay, organisational justice and turnover intention across a range of corporate organisations in the UK in order to better understand the effect of bonus pay on organisational outcomes. It considers the effects of bonus pay on the four distinct scales of organisational justice, the referents selected by recipients of a bonus to determine justice, and the subsequent bonus satisfaction and turnover intention appraisals of participants. It also considers bonus pay as a workplace event, both in isolation and in comparison with other events which occur during the research period, considering the effects of bonus pay on organisational justice, emotion, social exchange relationships and turnover intention, therefore attempting to close gaps in the justice literature identified by previous researchers. In the first of two studies, a questionnaire based, cross-sectional analysis of bonus pay as an event issued as close as administratively possible to the bonus pay announcement in a sample of 599 professionals in corporate organisations found that bonus amount has only weak or non-significant relationships with justice, satisfaction and turnover intention, and no direct effect on satisfaction or turnover intention. Justice scales and bonus satisfaction did predict turnover intention with differing direct and mediating effects. This study demonstrated some complex mediating effects of different scales of justice, with the type of bonus calculation (whether calculated as an absolute amount or as a percentage of salary) playing a role in which types of justice mediated bonus pay-satisfaction and bonus pay-turnover intention relationships. Referent selection also predicted bonus satisfaction and turnover intention, with the choice of referent in bonus situations proving different to those identified in 'general' pay situations in previous literature. In the second study, an experience sampling investigation using repeat measures with 31 participants, results showed that in comparison with events in general bonus pay elicited the predominantly negative emotions of anger and disappointment in participants. For bonus pay as an event in comparison with other events, organisational justice and social exchange predicted variation in turnover intention to a greater extent, demonstrating that bonus pay is an event which is particularly important in determining turnover intention. Social exchange relationship quality had the strongest direct effect on turnover intention, with organisational justice also having a direct effect. Emotional relationships with turnover intention depend on the nature of the emotion measure used, as the research finds no direct relationship between emotion score and turnover intention for any of the individual events under consideration, but positive and negative state affect are directly related to turnover intention, with negative state affect mediating the relationship between bonus pay and turnover intention relationships (whereas positive state affect does not).

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## Glossary of Terms and Acronyms

State Affect	Also called emotion, this is a short-lived affective or emotional state (in psychology referred to as Affect).
Trait Affect	Underlying and relatively stable emotional state thought to be determined by personality traits as well as other experiences.
Positive State Affect	Used by some researchers to describe generally positive emotions as a broad category.
Negative State Affect	Used by some researchers to describe generally negative emotions as a broad category.
Mood	Mood is not clearly defined, however in this research is taken to mean a medium-term affective state longer lasting than state affect, yet not a trait.
Emotion	A complex experience of consciousness, bodily sensation, and behaviour that reflects the personal significance of a thing, an event, or a state of affairs.
CMR	Current mood report
CWB	Counterproductive work behaviours
OCB	Organisational citizenship behaviour
AET	Affective events theory
OJS	Organisational Justice Survey
OLS	Ordinary Least Squares
OJS-8	Short form Organisational Justice Survey
BSS	Bonus Satisfaction Survey
TIS-6	Short form Turnover Intention Survey
SERS	Social Exchange Relationship Scale
GEW	Geneva Emotion Wheel

ILM	Institute of Learning and Management
CIPD	Chartered Institute of Professional Development
GDPR	General Data Protection Regulations
POS	Perceived organisational support
LMX	Leader member exchange
PANAS	Positive and negative affect scale
INSCO	Insurance company
MEDCO	Medical devices company
ESM	Experience sampling methods
CEO	Chief Executive Officer
CIM	Chartered Institute of Management
BHPS	British Household Panel Survey
OBM	Organisational behaviour modification
fMRI	Functional Magnetic Resonance Imaging
SMPI	Smallest meaningful pay increase
RCT	Referent cognitions theory
ML	Maximum Likelihood
REML	Restricted Maximum Likelihood
-2LL	-2 Log Likelihood
ICC	Intraclass Correlation Coefficient

## 1. Introduction

This thesis is concerned with understanding bonus pay, the justice processes engaged in when bonuses are paid, the affective and social exchange relationship lenses with which to view justice, and the relationship between bonus pay and these justice, affective and social exchange processes on our intention to leave the organisation. This thesis will follow the stimulus (or event), appraisal (or attitude, including both affective and cognitive elements), behaviour (or outcome) paths suggested in other justice research (e.g. Colquitt et al., 2013; Elfenbein, 2007) to identify specific relationships involving bonus payments, fairness and organisational outcomes, and use theoretical frameworks such as affective events theory (Weiss & Cropanzano, 1996; Basch & Fisher, 2000), agency theory (Adams, 1965), organisational justice (Colquitt, 2001; Greenberg et al., 2007), theories of social comparison (e.g. Buunk & Gibbons, 2007) and a review of the relevant outcomes in current research considering these variables to develop testable hypotheses. In this thesis the definition of a bonus system as given by Furnham (2008, p. 282) is:

*A system where employees receive a guaranteed weekly or monthly wage, plus a financial reward based on their performance is often called a bonus system. Performance measures could be based on either the performance of the individual, a group (e.g. team or department) or the whole organization.*

The thesis aims to contribute to the broad subject of pay research which is an under-researched area in personnel psychology (Shaw & Gupta, 2015), perhaps surprising given that pay is an important motivational factor with base salary and benefits rated the second most important motivator for employees (behind the intrinsic enjoyment of the job) (ILM, 2013). The thesis specifically focusses on bonus pay as a remuneration strategy, seeking to contribute to the evidence that bonuses are both a motivator (leading to increased satisfaction and performance), yet can also be a cause of dissatisfaction and employee turnover (ILM, 2013). It also seeks to investigate the effects of fairness (or organisational justice) as a mediator in bonus pay situations, as this is proposed by many theorists and researchers to be a reason why increased pay can lead to decreased satisfaction and performance (Colquitt, 2001). The reactions and attitudes of employees towards salary payments are different to attitudes towards bonus payments leading to a differential impact on motivation (CIPD, 2015), therefore by focussing on bonus pay the thesis seeks to add to the current body of research into pay, which has tended in general to focus on salary as a form of payment (Grund & Hofmann, 2019). Many organizations make use of different types



of performance-related pay systems. The design of such systems can differ in terms of who is included (in which positions and on which levels), how performance is measured, and which incentives are used (money, stock etc.), yet they are all based on the general idea that employees should be motivated to work harder because they see the connection between job performance and reward. This premise has been researched, but often with contrary findings. Nevertheless, a bonus system remains a popular mechanism for directing behaviour towards outcomes, with 94% of British organisations offering a financial incentive to staff above their annual salary to improve performance (ILM, 2013). This thesis aims to understand whether the payment of these financial incentives has the desired organisational effect (to improve outcomes), or whether this payment acts as a signal of injustice which serves to increase counterproductive work behaviours (Colquitt et al, 2013).

This research addresses three sets of relationships designed to offer clarity into the psychological mechanisms surrounding bonus pay. These relationships consider the theoretical underpinnings of reactions to bonus pay and are directed at current gaps in existing research. The common elements of these relationships are that they involve bonus pay as a workplace event, they consider bonus pay in the context of organisational justice appraisals (where these justice appraisals are triggered by a bonus payment), and that they consider the effect of bonus pay on an employee's intention to leave the organisation. Organisational justice is pertinent to this research as it represents an attempt to operationalise fairness in the organisational context, one of the main contemporary social concerns with bonus pay. Greenberg (1990, p. 400) provides a description of organisational justice research as 'attempts to describe and explain the role of fairness as a consideration in the workplace'. The first set of relationships in this thesis concern the amount of bonus pay, and whether it is the amount of bonus or the subsequent justice appraisals which have a greater association with both bonus satisfaction and turnover intention. The second set of relationships concern the social comparison referents used upon receipt of a bonus and looks at the relationship between referent selection and justice appraisals, and the mediating effect of the selection of social comparison referent on bonus pay and bonus satisfaction and bonus pay and turnover intention relationships. The third set of relationships consider bonus pay as an event in the context of other workplace events and seeks to understand how bonus pay (both as an event in itself, and in comparison to other events identified occurring in the workplace during the research period) relates to both emotional and social exchange quality appraisals, and how these in turn relate to specific components of justice and turnover intention.

It is perhaps surprising that bonus pay has received little attention in psychology research given the prevalence of bonus as an issue in the media and political sphere (e.g. Dale, 2009; Butler, 2015), and the increase in the instance of bonus pay as a component of total pay with bonus pay increasing significantly in some sectors of the economy (Forth et al., 2014). In the existing literature there is some measure of disagreement and no clear conclusions provided into whether bonus pay forms an effective means of reward and motivation. Economics theories such as agency theory, supported by broad panel data (e.g. Pouliakas & Theodossiou, 2009), suggest that bonuses are an effective payment method to improve performance. These findings are often questioned by psychological theories and research (e.g. Gneezy, 2004) which suggest that mediating constructs such as organisational justice introduce a limit to the effectiveness of bonus pay in increasing performance, as fairness concerns override the motivational effects of bonus pay once inequality or inequity becomes too great. Although justice as a psychological construct is well understood and researched, the context of bonus payment as an event which triggers a justice appraisal has not been widely researched. Situational justice and satisfaction relationships in the circumstances of bonus pay are under-researched (Shaw & Gupta, 2015; Wu & Wang, 2008), with the available literature generally limited to single industries such as hospitality (e.g. Wu & Wang, 2008) or organisational populations such as executives (Bruce et al., 2007; Bebchuk & Fried, 2003).

While 'pay' in general is often considered in research and salary as a form of pay has received attention, there is value in considering the specific situation of bonus pay. Researchers report a number of differences in the psychological mechanisms used in appraising salary and bonus payment (Grandey, Tam, & Brauburger, 2002), meaning that pay research considering salary may not be generalisable to bonus pay situations. Social comparison theories which underpin justice theories explain the central need that in order to make a justice appraisal a relevant referent must be selected against which to form a comparison. These same social comparison theories suggest that different referents are chosen in different situations introducing the possibility that different referents are used by employees in salary increase and bonus pay situations, leading to different perceptions of justice (Grund & Rubin, 2017). This is consistent with research demonstrating that there are differential situational reactions both attitudinally and behaviourally to bonus pay and salary (Tremblay, Sire, & Balkin, 2000). The use of referents in determining justice appraisals regarding pay has been investigated by several researchers, but there is little research considering the referents selected in the specific instance of bonus pay (e.g. Law & Wong, 1998; Larkin et al., 2012; Buunk & Gibbons, 2007). There is an opportunity therefore to contribute to the existing research by considering the social comparison referents selected in

bonus pay situations, and to consider the relationship between referent and both justice and satisfaction appraisals. In the remainder of this chapter this thesis will set out the chapter structure for the reader and give a brief overview of the contents of each section. The thesis begins by considering the rise of bonus pay as a remuneration strategy, the reasons why bonus pay is used and why it is becoming increasingly popular. This chapter then outlines the scope of this thesis, and the variables included in the research. Though only a brief introduction is provided in this chapter, the thesis introduces the broader subjects germane to the thesis which will be addressed by the literature review in the next chapter.

In Chapter 2 the thesis considers the theoretical basis for and research related to financial incentives in general and bonus pay specifically. It first considers agency theory, the economic theory underpinning bonus pay, and seeks to understand the strengths and weaknesses of using agency theory as a foundation for understanding reactions to bonus pay. It considers research on the central question behind the effectiveness of agency theory, namely 'do financial incentives work when directing behaviour towards an outcome' and considers the literature which supports the relationship between financial incentives and outcomes (and specifically bonus pay and performance in its various measures) and the literature which questions this relationship. In this chapter the thesis also reviews the evidence considering the relationships between the amount of pay and performance, pay dispersion and inequality before considering the relationships between pay, organisational justice and organisational outcomes, before finally arriving at a review of the social comparison literature in pay appraisals. Interrogating this research in some depth the thesis is able to identify the need for considering the two lenses for viewing justice (namely social exchange relationship quality and emotion lenses) and the outcomes linked to these distinct lenses. Using these themes this thesis identifies gaps in the research related to bonus pay and justice which will help to formulate relevant hypotheses. It also reviews the research where justice has mediated pay and outcome relationships in existing literature, and provides reasons why using this mediating framework for viewing bonus pay is effective. Throughout the literature review the thesis will provide a summary of the hypotheses drawn from existing research which will in turn form the bases of the research investigations included in this work. These hypotheses fall into two distinct areas, the first being where pay has been researched but bonus pay has not, and where investigating bonus pay as a specific form of remuneration adds to the current body of literature. The second being where emotional and social exchange relationships related to justice are concerned, and where methodological and practical limitations have prevented these being researched as co-occurring phenomena in previous investigations.

In Chapter 3 the thesis begins to outline the research methods employed. This chapter demonstrates how each of the hypotheses (developed from the review of the extant literature) fit into three separate proposed sets of relationships which are consistent with current theories of pay, justice, satisfaction and organisational outcomes. While this thesis specifically looks to answer hypotheses related to bonus pay, the research also considers a range of potential workplace events in order to understand not only the absolute effects of bonus pay, but the effects of bonus pay in relation to other workplace events. The variables and paths in the proposed sets of relationships are described later in this introduction. There are natural linkages and established relationships across these variables which become apparent in Chapter 2, and a review of the existing research indicates that the inclusion of these constructs is well-founded. Each of the hypotheses developed in this thesis are mapped to these sets of relationships, which allows for the consideration of potential research methods to effectively test them. In Chapter 3 the thesis therefore begins to outline the research design and methods used to test the hypotheses and the paths in the relationships between variables, providing an overview of the research methods which are then expanded upon for each of the two separate investigations in Chapters 4 and 6.

Chapters 4 and 5 describe the method (in Chapter 4) and results (in Chapter 5) for the first of the two research investigations designed to investigate the hypotheses and relationships in this thesis. The first investigation (a cross sectional investigation) addresses the first and second set of relationships forming this research, the first set of relationships considers bonus pay (as an amount) and the relationships between bonus pay, organisational justice (including the distinct scales of procedural, distributive, interpersonal and informational justice), bonus satisfaction and turnover intention. The second set of relationships considers bonus pay (as an amount), social comparison referents, organisational justice (including the distinct scales of procedural, distributive, interpersonal and informational justice) and bonus satisfaction. As the variables in these two sets of relationships are similar (with only referents added to the second set of relationships), they can be included in a single research design, outlined in Chapter 4.

In Chapters 6 and 7 the thesis describes the method (in Chapter 6) and results (in Chapter 7) of the second of the two investigations which make up this research. The second investigation (an experience sampling investigation) addresses the third set of relationships which consider bonus pay as an event (both in its own right and in the context of other workplace events), organisational justice, emotion, social exchange relationship quality and turnover intention. By considering a number of workplace events the investigation considers

not only the nature and strength of the relationships for bonus pay, but also the relative relationships for bonus pay as an event in comparison to other workplace events.

Chapter 8 provides a discussion of the findings of both research investigations. This chapter addresses the aims of the research and the outcomes in light of these aims. It provides a discussion of the implications of the findings and evaluates the research both on the basis of theoretical contribution and the methods used. Rather than focusing narrowly on the hypotheses developed and investigated in earlier sections, this chapter also considers specific relationships and paths in the analysis which are interesting to our current understanding of bonus pay and pay in general. The chapter closes by suggesting potential directions for future research (of which many are opened due to both the findings in this research and the broad array of variables investigated). In Chapter 9 the thesis offers final conclusions related to the research. Having set out the broad direction and chapter structure in this introduction, this section now continues to outline the scope of this thesis (including the justification for focusing on bonus pay as a subject), and the variables included in the research in more detail.

## 1.1. The Rise of Bonus Pay

Bonus pay has become a common fixture in the general organisational and political discourse. As bonuses become a more popular feature of remuneration strategies more attention naturally falls on them, with questions raised as to their role and efficacy in incentivising performance. Spending on bonuses amounted to an average of 3.1 percent of total compensation budgets in 1991, but by 2017 that share rose to 12.7 percent (Cohen, 2018). More companies are choosing bonuses over salary increases as they offer more flexibility if organisational performance decreases. Salaries are difficult to cut, but a bonus can be decreased year on year without as much impact on employee perceptions of decreasing pay, increasing their use by companies who seek to maintain a more flexible overall wage bill (Greeley, 2018). Given the increased incidence of bonus pay, reward practitioners would be forgiven for assuming that there is clear evidence that paying a bonus has a clear and identifiable influence on both individual and organisational performance. In fact there is conflicting evidence. While there are clear arguments for the role of bonus pay in reward strategies as bonus pay directs effort towards clearly defined goals, there are also counter-arguments related to both the behaviour bonus pay incentivises and also effective organisational functioning. It is difficult to draw clear conclusions as bonus pay remains one of the most under researched dimensions of pay (Bruce et al., 2007). Pay itself is considered

by many to be an under researched area of organisational life, with Ledford and Heneman (2011, p. 2) noting that pay is often a 'widely implemented, poorly understood and under researched human resource practice'. The goal of this thesis is to contribute understanding to this growing remuneration practice by investigating bonus pay. Firstly, it may help to understand why companies continue to pay bonuses given the relatively scant evidence for their effectiveness.

## 1.2. Reasons for Bonus Pay

As this thesis will demonstrate in subsequent sections reviewing the current literature, the hypothesis that bonus pay is effective has support from extant research, especially when directing effort and attention towards carefully defined programmable outcomes. There are significant positive relationships between bonus pay and a range of outcomes in the literature, including task performance, organisational citizenship behaviours and job satisfaction. Perceptions of a link between bonuses and performance are strong, with 84% of respondents to annual pay surveys believing that bonuses are a powerful tool to encourage high performance (Hays, 2012). This may explain why the use of bonus pay is both prevalent and growing. In a cross-sector 2013 poll the Institute of Learning and Management found that 94% of organisations offered a financial incentive to staff above their annual salary (ILM, 2013), though these bonuses are often limited to particular roles and levels, such as managers (Gerhart & Milkovich, 1990) and executives (Jensen & Murphy, 1990). Using broad panel data from the British Household Panel Survey from 1998 to 2003, Pouliakas and Theodossiou (2009) report that 30.5% of participants from an annual sample of around 10,000 individuals in 5,500 British households report receiving rewards based on a measure of company performance (such as a bonus, profit related pay or occasional irregular commissions). The chartered institute of management (CIM, 2016) in their survey of 105,000 managers in 425 organisations report that 57% of managers received a bonus in the year 2015-2016 (compared to 54% in the previous year), and that on average this bonus is worth 17% of managers pay packages (with CEO and director bonuses worth 38% of their pay package). Bonuses can therefore represent a significant portion of an employee's total reward.

The two main reasons employers report for paying a bonus are to keep staff and to reward performance (ILM, 2013). Over half (57%) of respondents to the Hays Bonus Satisfaction Survey (Hays, 2012) stated that they would leave their organisation if their bonus did not meet their expectations. Paying bonuses to retain employees (or talent) is a practice prevalent in many industries (Cosack, Guthridge, & Lawson, 2010), and may also account

for an increased use of bonus pay in reward strategies, especially as critical skills are often rare and competition for 'talent' therefore becomes fierce. These talent retention arguments introduce a link in the research between the amount of bonus paid and turnover intention, though this link requires further investigation. The main reason why bonuses are paid is not to keep employees, but to reward performance (Hays, 2012). Bonus pay is perceived as an efficient means to manage performance in employment relationships as it aligns the goals of all involved parties. It has been argued that performance related pay and bonus pay are an integral element of 'high performance workplace practices', which have been found to be positively related to a host of positive outcomes including productivity, profitability and job satisfaction (Bauer, 2004). Expectancy-based theories of psychology predict that work attitudes are derived in part from the rewards produced by performance (Lawler & Porter, 1967), and that both performance and the rewards obtained are valued outcomes (Judge et al., 2001; Brown & Sessions, 2003). The link between bonus pay and performance is not however always clear. In research by the Chartered Institute of Management (CIM, 2016), the authors found that 23% of underperforming managers receive a bonus, indicating that bonuses are often paid despite poor performance, not as a result of high performance.

There is evidence that bonuses do not motivate employees, or that aspects of performance related pay may diminish productivity and reduce satisfaction. The Institute of Learning and Management (ILM, 2013) found that only 13% of employees said they are motivated by a bonus. The Hays Bonus Satisfaction Survey (Hays, 2012) reports that 69% of employees are dissatisfied with their bonus. Some researchers have suggested that job satisfaction is intrinsically linked to the relative pay status of an employee rather than the amount of pay received (Clark & Oswald, 1996; Ferrer & Carbonelli, 2005; Clark et al., 2008), and that the demoralising dispersion and variability in pay that can come with bonus systems can negatively influence work attitudes. This is supported by evidence considering social comparison in the workplace, which suggests it may not be the amount of pay received but pay in comparison with chosen others which has an impact on outcomes (Greenberg, Ashton-James, & Ashkanasy, 2007). Paying a bonus to underperformers may influence fairness perceptions, which can subsequently harm performance (Colquitt, 2001). Similarly, evidence exists which positions bonus pay not as an incentive but as a signal to help an employee understand their social exchange relationship with their employer (e.g. Weiss & Cropanzano, 1996). Bonus schemes may also encourage workers to 'game' the compensation system to their advantage by multitasking (Baker, 1992) or by engaging in rent-seeking behaviour aimed at influencing the subjective evaluations of line managers (Prendergast, 1999). Paying differential bonuses to team members can also undermine collaboration and teamwork and reduce employee innovation (Kohn, 1993). Using team-

based bonus schemes may dilute individual performance as a result of free-riding (Holmstrom, 1982). Given these contrary findings in literature, it will benefit this thesis to take a closer look at the evidence behind whether financial incentives, and bonus pay in particular, really do positively influence beneficial workplace outcomes. Firstly, given the breadth of potential subjects which intersect with this topic it will help to set out a clearer scope for the thesis.

### 1.3. Scope of this thesis

Bonuses are shown to have little or no effect on commitment and performance for all but a small minority of staff (ILM, 2013), and paying bonuses leaves more people dissatisfied than satisfied (Hays, 2012). This minority incentivised by performance related bonuses are also defined by their work characteristics. They tend to work in jobs that lack intrinsic motivators, are more likely to dislike their job, less likely to get satisfaction from their work, or less likely to feel treated well by their employer (ILM, 2013). In the absence of intrinsic motivators, an extrinsic motivator in the shape of a bonus may be required to incentivise performance. Despite this, bonuses are growing in popularity as a reward strategy. It is difficult, however, even given the depth of a doctoral thesis to consider all elements of bonus pay, therefore the scope of this thesis must be limited to address areas of interest both theoretically relevant and underserved by current research. Though surveys exist suggesting a direct relationship between bonus pay and turnover intention (e.g. Hays, 2012), there is little extant academic research which considers this relationship. An understanding of whether social comparison and fairness (or organisational justice) appraisals mediate the bonus-satisfaction and bonus-outcome relationship is also central to this research and is a set of relationships not well understood. Justice perceptions are suggested by some researchers to mediate the relationship between both pay and satisfaction and pay and turnover, yet these mediating relationships have not been extensively researched in the literature, let alone in the specific context of bonus pay as a form of pay.

Having concentrated the scope of this research on bonus pay, justice, bonus satisfaction and turnover intention this thesis can now begin to understand complimentary variables for inclusion which have a strong theoretical basis and would help to address gaps in the existing research. The inclusion of justice as a variable offers a number of different avenues of potential research. The different components of organisational justice (found to have differential relationships with satisfaction in general pay situations) are not well understood in bonus specific situations. This work can contribute to the existing literature by considering



relationships between bonus pay, bonus satisfaction, turnover intention and the different scales of distributive, procedural, interpersonal and informational justice (as defined by Colquitt, 2001). This will add to the existing body of knowledge by investigating in the bonus context which scale of justice has the strongest association with satisfaction and allow us to compare across bonus and general pay research. There is also an opportunity to address one of the common methodological failures in justice research. Justice is proposed to have both a social exchange relationship quality effect as well as an affective (emotional) effect. These components have been identified in meta-analysis (e.g. Colquitt et al., 2001), yet have not been researched as co-occurring phenomena to understand their relative effects. As this thesis will demonstrate in the literature review in Chapter 2, more than one justice researcher has identified this gap and suggested potential ways to address it (Colquitt, 2012; Greenberg et al., 2007).

It has been suggested that this gap in the current understanding of justice is due to methodological and experimental issues, but experience sampling techniques now offer a means to test these relationships. As this technique involves understanding deeper workplace experiences by gathering data over longer time periods, it offers the opportunity to understand the relative effects of social exchange relationship and emotion on turnover intention over a period of time. This method also allows for the investigation of bonus pay in more detail not only as an isolated event which elicits a justice response, but also in relation to other events which may occur in the workplace over the experience sampling period. This will add to the existing body of literature considering workplace events as the inclusion and treatment of bonus pay as a workplace event is reasonably novel. The subsequent emotional and attitudinal responses elicited by considering bonus pay as a workplace event also offers an opportunity to understand the relative effect of bonus pay as an event in the context of a number of other workplace events, and so understand which has the stronger association with both justice and turnover intention.

A final area for inclusion in the scope which has strong theoretical links to justice and is underserved by current research in the context of bonus pay (though not in the context of pay in general) is social comparison processes. There is scant research into the social comparison processes used by recipients of a bonus, and the relationship between these social comparisons and perceptions of justice. Classical justice and fairness theories suggest that comparison processes must exist in order to decide whether something is or is not fair by comparing one's own outcomes with that of a referent. Whilst investigating justice perceptions related to bonus pay, this thesis will also therefore add to the current body of research considering referent selection in bonus pay situations. This is theoretically

consistent with social comparison theories, another area underserved in current literature. With whom recipients of a bonus compare their award has received little interest, though the subject of comparisons with 'general' pay situations has been researched in some depth and these social comparisons have been shown to be strongly associated with justice perceptions. Together these focus areas provide the scope of this thesis and help to narrow the attention on theoretically sound yet underserved areas in current bonus and justice research. The final section of this chapter shows the variable catalogue developed to cover this scope.

#### 1.4. Variable catalogue

The variable catalogue is taken directly from the scope described in the previous section and is shown in Table 1. It details the variables included in the research. The measures for assessing these variables are discussed in more detail in the overview of the methods used for the investigations in Chapter 3 of this thesis. At this stage the thesis provides a summary of the variables to be included in the scope of the research. This not only clarifies the scope but also provides a useful guide during the literature review, the purpose of which is to provide a summary of both the theoretical bases for anticipating relationships between the variables, and the relevant literature related to these variables and their relationships.

Table 1.

*Variable catalogue detailing the variables in the scope of the research*

<b>Variable</b>	<b>Description</b>
Participant ID	Participant identification number
Gender	Gender of the participant
Position	Managerial position
Age	Participant age
Date	Date of completion of the information
Time	Time of completion of the information
Bonus Pay	Amount of bonus paid
Salary	The amount paid in salary to provide context for the bonus
Bonus Satisfaction	Satisfaction with the bonus awarded
Turnover intention	Intention to leave the organisation
Organisational Justice	Justice (or fairness) perceived by participants
Distributive Justice	Justice related to the amount received
Procedural Justice	Justice related to the process followed in allocation
Interpersonal Justice	Justice related to the treatment received
Informational Justice	Justice related to the transfer of information
Social Exchange Relationship Quality	The quality of social exchange relationships, one of the lenses through which justice can be viewed
Emotion type	Type of emotion felt by participants
Emotion strength	Strength of emotion felt by participants
Emotion score	Transformed emotion variable incorporating both emotion state and strength in a single variable
Positive state affect	Variable used to describe the strength of positive emotion experienced by participants
Negative state affect	Variable used to describe the strength of negative emotion experienced by participants
Workplace events	Events (various) which happen in the workplace
Positive trait affect	Baseline levels of positive affect occurring in participants
Negative trait affect	Baseline levels of negative affect occurring in participants

## 2. Relevant Literature

To understand the relationship between financial incentives, justice and organisational outcomes, it is important to investigate their theoretical bases. Surprisingly, given the increasing uses of bonus pay in compensation and incentive systems they are one of the most under-researched areas in human resource management and personnel psychology (Shaw & Gupta, 2015). There remains sufficient volume, however, if a scan is undertaken of the economics, psychology, management and human resources literature to draw some related conclusions. This is especially true if the research extends to pay and justice, as organisational justice is one of the most widely researched fairness constructs over recent times and so a wealth of evidence supports it (Colquitt, 2001). To effectively structure this review of the relevant literature, it first considers a review of the fundamental theories of bonus pay, that of agency theory, which begins to dictate principal-agent relationships in contracts. This then leads to a broader review of the evidence behind financial incentives (and bonus pay in particular) and performance. As fairness and justice are recurrent themes in the pay for performance literature, the review provides an overview of the research considering pay dispersion, inequality and the unintended consequences of violating fairness norms, reflecting on the evidence behind organisational justice and both organisational and individual outcomes. This focus on justice leads to a deeper understanding of the social comparison referents selected in pay appraisals (and in particular bonus pay appraisals) and the effects of these selected referents on justice and outcomes. This review naturally leads to a deeper understanding of justice as a construct, which encompasses both social exchange relationship and the often more neglected emotional components of justice. An investigation into emotional and social exchange relationship mechanisms of justice finally leads to a consideration of the specific emotions which result from justice appraisals (and justice appraisals where pay is concerned) and the effect of these emotions on outcomes.

### 2.1. Agency Theory

In economics incentive-outcome relationships are largely believed to be governed by agency theory. Agency theory provides an overarching theory of incentives, and is directed at the agency relationship, in which one party (the principal) delegates work to another (the agent), who performs that work. The assumptions of agency theory are that agents are motivated by self-interest, are rational actors, and are risk averse. Principals therefore use incentives as a control mechanism to motivate agents to align behaviour (Gomez-Mejia & Balkin, 1992).

Various mechanisms may be used to try to align the interests of the agent with those of the principal, such as piece rates, commissions, profit sharing, efficiency wages, or fear of firing. As the principal is buying the agents behaviour, then a contract which is based on behaviour is more efficient in the case of complete information. Less programmable tasks require increased use of variable pay, as the roles inherently involve more risk for the principal as they cannot easily monitor agent behaviour (Stroh, Brett, Baumann, & Reilly, 1996). When outcome uncertainty is low, the cost of moving risk to the agent is low (and therefore outcome-based contracts are attractive). When outcome uncertainty increases, however, it becomes increasingly more expensive to move risk to the agent as they will require more pay for undertaking a riskier enterprise (Shavell, 1979; Holmstrom, 1979). At its most simplistic level, the model of agency theory therefore becomes the trade-off between the cost of measuring and monitoring agent behaviour and the cost of measuring and monitoring outcomes and transferring risk to the agent.

This for many explains the increase in the role of bonus pay in broader remuneration strategies, as theorists argue that work has become less programmable over time as these programmable tasks become automated or outsourced (Fast-Berglund et al., 2013). As there is limited information available to the principal they are uncertain whether the agent has behaved as agreed. The principal therefore has two choices, to monitor the behaviour of the agent through increased investment of information systems (such as more effective reporting procedures or increased layers of management), or to contract based on the outcomes of the agents behaviour (Demski & Feltham, 1978). Agency theory is therefore concerned with resolving two problems that can occur in agency relationships. The first is the agency problem that arises when the desires or goals of the principal and agent conflict and the second understands that it is difficult or expensive for the principle to verify what the agent is actually doing (Eisenhardt, 1989; Gomez-Mejia & Balkin, 1992; Lambert, Larcker, & Weigelt, 1993; Core, Guay, & Larcker, 2003). Outcome-based contracts are proposed to be effective in curbing agent opportunism as such contracts align the preferences of agents with that of principals because the rewards for both depend on the same actions, and therefore conflicts of interest between principals and agents are reduced (Eisenhardt, 1989). Because principles cannot oversee agents, or observe their behaviour (especially in modern complex shareholder owned organisations, where instead governance forums are developed to act on behalf of shareholders), they 'rely on imperfect surrogate measures, which can lead the agent to displace his behaviour toward the surrogates in order to appear to be behaving well' (Mitnick, 1992, p. 79). This can lead to actors 'gaming' the system by effectively manipulating the rules of the system in order to gain an advantage over others. Shapiro (2005) raises the example of teachers. As student assessment scores are used to monitor

teachers, some teachers (executing an agency role for their supervisor principals) spend their time teaching students how to excel on assessments, rather than teaching based on substance or critical thinking skills (Jacob & Levitt, 2003).

The central tenet of agency theory is that outcome-based pay will align the goals of the principal and agent and reduce the incidence of misconduct and self-dealing, both considered agency costs. Research shows, however, that potential rewards for managers and executives (contrary to agency theory) may not provide sufficient incentive to promote behaviours consistent with both principal and agent benefit, but can rather provide incentive to cheat, commit fraud or act in other ways to achieve the level of organisational outcome which triggers an individual's bonus payment (Harris & Bromiley, 2007). The authors demonstrate that higher levels of performance-based reward substantially increased the incidence of executive misrepresentation of corporate financial records. In addition, the authors reveal that monitoring practices typically considered measures of 'good governance' (including independent board members and institutional stock ownership) have no effectiveness in deterring this misconduct. Whatever the potentially positive effects these governance practices may possess, the authors suggest that they may be overwhelmed by the motivating power of incentive pay, whose effect is shown to be dramatically non-linear. As an example, a firm that pays over 92% of total CEO compensation as a benefit dependant on firm performance has nearly a 40% chance of an accounting restatement in a subsequent 10-year period (Harris & Bromiley, 2007). Furthermore, this type of misconduct, once discovered, has a dramatically negative impact on subsequent firm performance (Harris, 2007). Financial misrepresentation leads to diminished financial performance, and this detrimental performance impact is observable not only in the typical short-term stock price fluctuation that analysts expect, but also in the ongoing and long-term impaired operational profitability of the organisation.

A primary theoretical critique is that an agency-based view of compensation generally embodies an under socialised view, accepting actors as self-interested and largely immune to social relations; a critique often laid at the feet of economic theories (Kahneman, 2003; Camerer & Malmendier, 2007). According to a predominantly psychological critique, the view taken by agency ignores the social structures, such as the workplace, within which behaviour takes place, disregarding the influence of variables other than economic incentives and information asymmetries on behaviour in organisations (Lubatkin, 2005). Agency theory considers only the relationship between the principal (who pays) and the agent (who receives) and does not consider the other effects present when these agency decisions are made. These effects may include the inequality which arises as a result of

agency relationships, the justice effects present where it becomes apparent that one agency relationship may be perceived as unfair to those who are able to observe that relationship (but may not be directly involved), or the effects where the outcomes related to agency relationships are not met, but the reward is still received (Camerer & Malmendier, 2007). While agency theory is fundamental to the increase in incidences of bonus pay, the agency model often fails to explain sufficiently the pay structures evident in some organizations (Garen, 1994; Conyon, 2006). An example often cited by critics involves executive pay (e.g. Devers et al., 2007). Selected researchers have pointed to a breakdown in agency theory when executive pay is concerned, as boards with dispersed membership cannot bargain effectively and executives wield substantial influence over their pay arrangements, often with a view to decouple pay from performance (Bebchuk & Fried, 2003). Total compensation for executives has risen steadily during the past three decades (Mishel et al., 2007) while wages in general have stagnated (Dash, 2006; Miller, 2006; Swanson & Orlitzky, 2006). In one decade alone in the US (1990 to 2000) CEO pay rose from 100 times that of the 'rank and file' workers to somewhere between 350 and 570 times (Harris, 2009). This rise was mainly due to the use of bonus schemes and stock options available only to executives (Hall & Murphy, 2003; Rynes & Gerhart, 2000). By considering the evidence as to whether pay has a direct effect on performance in more detail this thesis will be able to determine whether agency relationships have the intended effects, or whether other mediating effects are present which lead to a breakdown in the agency relationship.

## 2.2. Financial incentives and Outcomes

If the underlying tenets of agency theory are to be followed, the literature should coalesce around a common view that financial incentives have a positive relationship with desired outcomes. In reality the literature is mixed, with a body of research supporting the hypothesis that incentive pay is positively related to positive organisational outcomes such as increased performance and increased incidence of organisational citizenship behaviours, and a body of research considering the counterproductive behaviours associated with incentive pay. Linking financial reward to performance is designed to reduce agency problems in the absence of information. This aligns the interests of shareholders and management, eliminating the problem of moral hazard and increasing organisational performance in favour of their joint interests. There are clear pieces of research which support this theoretical model; that paying for outcomes is one of the most effective tools in improving productivity in organisations. In research comparing the performance effects of three forms of incentive (money, social recognition and feedback), Stajkovic and Luthans (2001) found that money had the strongest positive effect on performance, followed by social recognition and

feedback. The authors note, however, that situational factors may be important in this study as it was conducted in the manufacturing industry in an organisation with low wages where money may have a high instrumental value. In a related meta-analysis investigating incentives and performance (Condly, Clark, & Stolovitch, 2003), the effect of three distinct incentive types on performance improvement was researched (financial, non-financial such as restaurant coupons, and intangible incentives such as recognition and public praise). The authors found that performance gains from financial incentives were more than double those from non-financial or intangible incentives, though non-financial incentives were difficult to categorise in terms of benefit as they include gifts such as meals and holidays; items whose benefit is difficult to evaluate fully and may have different instrumental value to different recipients.

Performance related pay improves performance, at times dramatically, when job outputs are readily observable, however when jobs contain task complexity or involve outcomes that are difficult to assess (which some argue now describes the core of jobs; Fast-Berglund et al., 2013), performance related pay may harm performance in both the short and long term (Condly et al., 2003). Similar research has attempted to define performance in more granular terms, and has investigated the impact on both subjective quality of work and quantity of work in relation to financial incentives (Mason & Watts, 2009). Interestingly, quantity of work increases with financial incentives but not quality. The authors propose that this is due to an anchoring effect, whereby workers who are paid more also perceived the value of their work to be greater, and thus are no more motivated than workers paid less. The performance outcomes considered in current pay research will be considered later in this chapter as the thesis begins to isolate outcomes for inclusion in the research investigations. Condly et al. (2003) also found a significant learning curve effect on performance for the introduction of monetary incentives in the workplace. Short term incentives (under a month in duration) were associated with gains averaging 20%, whereas beyond six months gains averaged at over 40%, demonstrating that it may take time for the impact of incentives to be accepted into the group culture, or as highlighted in a wide-ranging review into performance related pay in the public sector, this may be the time required for gaming behaviours to be learned and adopted by agents within the system (Hasnain, Manning, & Pierskalla, 2012).

The majority of economists and managers believe that performance related bonuses help to increase worker effort (Engellandt & Riphahn, 2004). This viewpoint is largely supported by research using aggregate panel data and industry production functions. Such studies have identified a modest positive correlation between productivity gains and the use of performance related bonus payments in samples within Chinese industry (Groves et al.,



1994), Japanese industry (Jones & Kato, 1995), and in the panel data of a Swiss-based multinational company (Engellandt & Riphahn, 2004). There is broad evidence in economics research which supports the basic premise that financial incentives work in workplace contexts when it comes to directing effort towards outcomes (e.g. Gibbons, 1998; Prendergast, 1999; Lazear, 2000; Pokorny, 2008). Individual bonuses increase job performance in part because employees see their time and effort being rewarded (Eisenberger, Rhoades, & Cameron, 1999). Considering all pay for performance methods, from piece rates to profit sharing to bonuses, individual-based incentive schemes can lead to improved employee outcomes (Parent, 1999; Green & Haywood, 2008). They can provide employees with important feedback on their performance and productivity, which in turn can lead to increased motivation and positive behavioural effects (Gibbs et al., 2004; Hackman & Oldham, 1976). Research by Engellandt and Riphahn (2004) and Kahn and Sherer (1990) found a productivity enhancing effect of bonus payments, though in both of these studies performance is contingent on other factors such as variability of performance ratings over time and a high degree of competition in the internal labour market. Using US data, Heywood and Wei (2006) also support the finding that all types of performance related pay (bar piece-rates) yield greater job satisfaction relative to salary as a form of pay. A potential deficiency of the study conducted by Heywood and Wei (2006) is that they only focus on the discrete difference in job satisfaction between workers receiving performance-related pay and those on alternative schemes. Thus, treating this performance pay as a binary concept, they ignore the fact that worker performance and satisfaction may vary according to the magnitude of incentives.

Other research into incentives has demonstrated a complex relationship between performance and pay, adding depth to the binary view taken by Heywood and Wei (2006). This research suggests that it is not simply a case that performance related pay improves performance, but that the amount of pay plays a critical role. As suggested by a series of field experiments performed by Gneezy and Rustichini (2000, p. 802), *'for all positive but small enough compensations, there is a reduction in performance as compared with the zero compensation, or, better, with the lack of any mention of compensation'*. Nevertheless, the authors found that once levels of compensation are large enough pay is related to better performance than in the 'no incentive' case (Gneezy & Rustichini, 2000). This non-linear relationship is seen in the results of numerous pieces of pay for performance research and is often summarised as a 'non-monotonic relationship' which suggests that as pay increases, effort or performance sometimes increases and sometimes decreases. This non-linear relationship between worker effort and both positive and negative incentives (e.g. bonuses or fines, respectively) has subsequently been termed the "W effect" of incentives (Gneezy,

2004). This “W effect”, however, has yet to be fully supported by other researchers, though they also find a complex and non-linear relationship between pay and forms of performance. Pokorny (2008), for example, finds an inverse U-shaped relationship between effort levels and incentive intensity. This finding has garnered some support, primarily due to the nature of the ‘tipping point’ this appears to represent between increasing effort levels in line with incentive intensity, followed by a reduction in effort as incentive intensity continues to rise. This supports a complex and nuanced view of the relationship between outcomes and incentives which requires further investigation, and suggests that the relationship between incentives and outcomes, rather than being linear, are more complex in nature (though the actual shape of relationship differs in the current research).

One of the weaknesses of both the Gneezy (2004) and Pokorny (2008) research is that both studies involve an experimental approach using student respondents in a laboratory environment, and so the findings may have limited ability to be generalised in broader cases. Their findings showing a non-linear, complex relationship are, however, supported in other studies using broad data sets to interrogate organisational outcomes and attitudes. Using job satisfaction as a proxy for performance, Pouliakas (2010) considered 10 waves of the British Household Panel Survey (BHPS) over 10 years and found that after controlling for individual fixed effects (such as ability or motivation) which may introduce bias into payment schemes, job satisfaction is only found to rise in response to ‘large’ bonus payments. The authors also conclude that revoking a bonus from one year to the next is likely to have a detrimental effect on performance, and that over time job satisfaction tends to diminish as employees potentially adapt to the payment of bonuses using anchoring mechanisms. The author suggests that “generous” rewards are more likely to foster positive attitudes towards work among male employees who work in skilled occupations within the non-unionized private sector of the economy. Another example of the non-linear motivation effect of incentives can be found in the field study of Marsden et al. (2001), who highlights that although a large number of workers in their sample experienced a deterioration of workplace relations and cooperation following the introduction of bonus pay, this form of performance related pay motivated those who received above average payments.

Whilst some research has shown bonus pay to have a positive effect on job satisfaction and performance (e.g. Lazear, 2000; Paarsch & Shearer, 2000), others have posited that bonuses erode workplace cohesion and can be detrimental to performance and satisfaction. In UK-based research, findings demonstrate that the effect of bonus payments on performance is more complicated than simply saying it has beneficial or non-significant effects. Green and Heywood (2008) and Pouliakas and Theodossiou (2009) use the British

Household Panel Survey (BHPS) to investigate the impact of performance-related bonuses on a set of facets of job satisfaction. They show that although bonuses and profit-sharing schemes result in higher mean job satisfaction, the effect of individual-specific performance related bonuses diminishes once unobserved heterogeneity is taken into account. The authors suggest that individual differences such as ability, levels of ambition, education and motivation may raise an individuals' expectation of what they are likely to receive from their jobs, thus depressing their experienced satisfaction. They also suggest that other differences such as equity sensitivity and perceptions of injustice may combine with unobserved aspects of the pay system (such as links with performance management process or balances with other aspects of reward policies) to explain differences in satisfaction. Equity sensitivity proposes that individuals have different preferences for equity and thus react in different ways to perceived equity and inequality (Allen & White, 2002). The thesis will discuss how equity theory and justice theories relate in a later section.

Other researchers have similarly suggested that perceptions of injustice due to bonus pay are a factor in reducing job satisfaction and performance as they serve to erode workplace cohesion (e.g. Gabor, 1990; Gagne & Forest, 2008). Individual bonus pay is proposed to be a major source of justice evaluations (Jasso, 2006). It may be therefore that justice plays a mediating role in the relationship between bonus amount and satisfaction, as described in later hypotheses in this thesis. This is certainly an area worthy of further investigation and is underserved in the current literature. As equity theory suggests, the impact of a bonus award is likely to depend not only on the appraisal of the amount received, but also on the extent to which the pay distribution is judged to be fair or equitable (Bloom, 1999; Grant, Christianson, & Price, 2007). This effect may also go some way to explain the non-linearity in the relationship between pay level and satisfaction proposed by previous research. Despite pay rising, this does not necessarily mean that satisfaction rises in tandem, especially if the recipient perceives the pay of others rising in inequitable proportion. This may potentially lead to the inverse U-shaped relationship found in the research by Pokorny (2008) or the W-shaped relationship found by Gneezy (2004). If bonus awards are considered equitable to a point, and inequitable after this point, with the change in direction indicating the point where this change of appraisal occurs from 'equitable' to 'inequitable' then this could lead to a more complex relationship between amount of bonus and satisfaction with the bonus.

There are a number of potential reasons this change in appraisal may occur, for example at certain pay levels different social comparison referents may be used to determine equity appraisals therefore leading to different satisfaction appraisals (Bordia & Blau, 1998). Similarly, as bonus pay increases this may lead to different appraisals in inequality of pay

(with pay increasing to a level where inequality becomes a concern), which in itself may cause rapid changes in satisfaction appraisals (for example when pay falls above or below the median for the peer group; Card et al., 2012). One problem with bonuses seems to be the informational effect of bonus pay on the organisation. Other than to motivate effort, bonus pay provides employees with important information related to the social system. Bonus systems often tell people what is valued, expected and important in the particular setting (Baiman & Rajan, 1995; Pfeffer, 1997). They also offer a person a view of an individual's position in the social hierarchy in relation to their peers, influencing processes of self-appraisal and perceptions of self-worth (Garnder, Van Dyne, & Pierce, 2004). If one of these informational effects is to inform an individual of their relationship within the social hierarchy of an organisation (or their position and worth relative to others), then it may not be the absolute amount of bonus received but the amount relative to salient others which matters in determining satisfaction. These appraisals may provide a potential explanation for discontinuities in the relationship between pay amount and satisfaction which determine the non-linearity of the relationship found in previous research. Social comparison and justice relationships will be considered in more detail later in the thesis as the research seeks to explain associations between bonus pay, justice and outcomes. Researchers have also suggested deeper physiological reasons why increasing bonus pay may be associated with changes in attitude, with increased bonuses linked to decreased cognitive control and attentional focus (Braem, Verguts, Roggeman, & Notebaert, 2012). For now, the thesis considers research which provides evidence against paying for performance. There are a number of investigations which find at best no relationship between bonus pay and outcomes, and in some cases an increase in counterproductive work behaviours with an increase in pay.

### 2.3. Findings questioning reward-performance links

The effectiveness of paying a bonus as an outcome-based reward is accepted often without consideration of whether or not it works in practice (Garen, 1994). While the summary of the research supporting performance-based pay has shown that outcomes are often non-linear and can be complex depending on both outcome (for example quantity versus quality), the payment method (for example piece rates versus group bonuses) or the payment amount (with too little bonus acting as a disincentive), evidence exists that bonuses can have a negligible and sometimes detrimental impact on performance. Some researchers have, in fact, had difficulty demonstrating any positive link between incentive pay and improved organizational performance (Mishra et al., 2000; Murphy, 1999). More recently, researchers have argued that incentive pay in the form of bonuses may be counterproductive, and that

they actually decrease performance (Blasi, Kruse, & Bernstein, 2003; Yermack, 2006). Given the increasing incidence of bonus pay as a form of incentive, with the introduction of the payment system in sectors as diverse as healthcare (Cromwell et al., 2011) and education (Goodman & Turner, 2013), the relationships between performance and financial incentives are surely well established in extant academic research? In fact, research remains somewhat contradictory. In healthcare, for example, results linking bonus payments to care quality outcomes are at best mixed, with some researchers finding 'little rigorous evidence' of the success of performance related bonus schemes in improving care quality (Scott et al., 2011, p. 1). Other healthcare commentators identify performance related bonuses to administrators as a key driver in the falsification of records and data, incentivising fraud rather than care performance (Nocera, 2010). Similarly in education, where in school districts such as New York in the US the introduction of performance related bonuses to teachers has had little effect on specifically targeted outcomes such as student achievement (Goodman & Turner, 2013). This finding has been repeated in other academic literature focussing on teacher performance incentives, where evidence suggests there is no evidence for improvements in academic performance following the payment of a bonus (Eberts, Hollenbeck, & Stone, 2002; Fryer, 2011).

Although classical economics research considering broad data sets sometimes reveals a positive relationship between bonus pay and performance, much of this literature fails to control for a number of highly plausible alternative interpretations of the results such as relationships between bonus pay policies and other organisational policies and practices which effect performance (Mattson, Torbiorn, & Hellgren, 2014). In contrast, psychological research (which relies more on individual-level employee data rather than aggregated panel data) often reveals a negative relationship between bonus pay and positive mediating and outcome variables. Taylor and Pierce (1999) in cross-sectional research found that an outcomes-based bonus had a negative effect on staff members' organisational commitment and perceived organisational support, particularly among high-performing employees. The authors report that the bonus system and its administration result in a perception of unfairness and had a demoralising effect, a finding supported in other psychological studies (e.g. Marsden & Richardson, 1994). Other researchers have demonstrated that the allocation system is important in providing financial incentives for performance. The procedure used for distributing incentives has a significant association with levels of performance attained, demonstrating that procedural fairness perceptions may play a noticeable part in moderating the bonus-performance relationship (Mason & Watts, 2009). Stajkovic and Luthans (2001) investigated two distinct incentive allocation systems, one which was a routine pay for performance model, and one which apportioned incentives

systematically based on an organisational behaviour modification (OBM) approach. The OBM model outperformed routine pay for performance more than three-fold (37% improvement against 11% improvement). Procedural justice is, as the thesis will discuss in later sections, a key part of the theoretical underpinnings of organisational justice, and so this finding is perhaps not surprising, and is supported by many justice theorists who point to reward distribution processes and systems being as important or more important than the amounts distributed in directing behaviour and outcomes (e.g. Colquitt, 2001; Tremblay et al., 2000).

There is a range of research which supports the hypotheses that providing financial incentives to direct behaviour sometimes has a perverse effect, reducing the effort provided by employees and adversely influencing workplace behaviour (e.g. Mason & Watts, 2009). Evidence supports the idea that bonus systems often only reward observable goals, neglecting those which are more creative and constructive in the long run (Kerr, 1975) and that individually based rewards can reduce the incentive to cooperate (Lazear, 1989) and tend to create internal organisational conflict (Gabor, 1990). Rewarding individual employees with a bonus can produce negative outcomes by eroding workplace cohesion (Drago & Turnbull, 1988) as employees become reluctant to share information with others even at the expense of reduced output and diminished quality of work (Lazear, 1989). When bonus pay is used relative comparisons at the individual level create competition which results in decreased trust, sharing and teamwork (Bloom, 1999; Gardner, 1999; Grant et al., 2007). Researchers have demonstrated, for example, that tournament-based compensation based on bonus pay can lead to decreased helping behaviour and increase the potential for sabotaging other workers (Drago & Turnbull, 1988). In addition, there are now a number of experimental studies indicating that financial incentives may be counterproductive by acting as a signal of employer distrust (e.g. Falk & Kosfeld, 2006) by undermining reciprocity-based voluntary cooperation (e.g. Fehr & Gächter, 1998), or by acting as a visible indicator of injustice or inequity in the workplace (Tremblay et al., 2000). Several reviews indicate that bonuses could be particularly detrimental to outcomes when the task is intrinsically interesting enough and when the task is complex enough that flexible thinking is needed (Weibel, Rost, & Osterloh, 2009; Gagné & Forest, 2008; McGraw, 1978). These findings extend to a significant body of work in psychology which demonstrates how explicit financial incentives can be associated with decreased motivation and reduced task performance, widely referred to as the cognitive evaluation or 'motivation crowding' hypothesis (Deci & Ryan, 1985; Frey & Jegen, 2001). According to this theory, once it is acknowledged that individuals derive a measure of intrinsic satisfaction from a task or activity, explicit rewards that are perceived as controlling devices or as indicators that the employment relationship is

a market exchange are likely to diminish job satisfaction and performance (Kreps, 1997, p. 363). Using financial incentives has been shown to result in reduced effort in a number of settings including when collecting donations for charity (Gneezy & Rustichini, 2000), when donating blood (Titmuss, 1970) and when paying taxes (Frey, 1997).

One of the mechanisms by which bonus pay is thought to improve performance is generally thought to be through an enhancement of cognitive goals (Pessoa & Engelmann, 2010). Being motivated implies directing behaviour towards a goal, and bonus pay is thought to enhance a person's ability to direct their behaviour to accomplish these cognitive goals (Aarts et al., 2014). In support of this theory, many researchers have shown that goal-directed motivation improves a wide range of cognitive-control functions (Jimura, Locke, & Braver, 2010; Krawczyk, Gazzaley, & D'Esposito, 2007; Pessoa & Engelmann, 2010). A number of researchers have, however, found results inconsistent with these positive cognitive-control enhancing effects of rewards, with some research suggesting a negative effect of bonus pay on cognitive functions such as attentional focus (e.g. Braem, Verguts, Roggeman, & Notebaert, 2012; Padmala & Pessoa, 2011; Sasaki, Nanez, & Watanabe, 2010). It has been proposed that individual differences in levels of the neurotransmitter dopamine may play an important role in the effects of motivation on cognitive control (Mobbs et al., 2009; Pessoa & Engelmann, 2010; Steenbergen et al., 2009). Dopamine has long been known to play an important role in reward and motivation (Berridge & Robinson, 1998; Robbins & Everitt, 1992). More recent research has supported this proposition. Aarts et al. (2014) studied the effects of bonus payments on cognitive control within a range of subjects with varying capacity for dopamine synthesis. The authors found that in people with a high baseline capacity for dopamine synthesis, a promised bonus might overdose the dopaminergic system, thereby impairing rather than improving cognitive control (Aarts et al., 2010). In contrast, increased dopamine processing caused by anticipated reward would lead to more optimal cognitive control in people with low baseline dopamine levels, in accordance with the inverted-U shape of the function relating cognitive control to dopamine level (Cools & D'Esposito, 2011).

Whilst cognitive control and dopamine synthesis are not a focus of this thesis, it is important to consider as it may provide an alternative explanation of the relationship between bonus pay and satisfaction. Research in other satisfaction domains, for example body satisfaction (Webster & Tiggerman, 2003) and life satisfaction (Ash & Huebner, 2001) have suggested that cognitive control is strongly related to satisfaction. Interestingly, this inverted-U shaped function relating cognitive control to dopamine level is also found in research by Pokorny (2008) considering the amount issued as a financial incentive and performance. This may be

one of the reasons the literature provides recurrent examples where bonus pay is suggested to improve performance only up to a point, when other factors come into effect which serve to reduce the effectiveness of bonus pay. In the majority of cases in the literature (e.g. Gneezy, 2004; Pouliakas, 2010; Pokorny, 2008) the literature demonstrates a non-linear relationship between performance and pay, and typically a relationship which is non-monotonic. There are theoretical reasons for this, as there are factors which are theorised to mediate the pay-performance relationship. The non-linearity is proposed at least in part to be due to relative social comparisons and justice effects (Bloom, 1999; Grant et al., 2007). These effects are within the scope of this thesis. Research considering the dynamics between pay and pay satisfaction has shown both direct and mediated relationships between the constructs, with suggestions that justice at least partially mediates the relationship between pay and pay satisfaction, a relationship addressed in later hypotheses. For this research, though the exact relationship between bonus pay and bonus satisfaction cannot be predicted and varies in the literature, this thesis can hypothesise that:

*H1: Bonus amount will demonstrate a linear relationship with bonus satisfaction.*

The findings in previous research would suggest an expectation that the null hypothesis is supported. This means that as bonus pay increases, a linear increase in bonus satisfaction is not expected, but rather a more complex relationship where bonus pay may rise yet satisfaction may fall. While this thesis has identified potential reasons for this (including the effects of social comparison and justice) which fall within the scope, it is important first to provide an overarching hypothesis related to the nature of the pay for performance relationship. The thesis will discuss the evidence related to potential mediating constructs in later sections, including inequality, inequity, social comparison and organisational justice which have been demonstrated to mediate pay for performance (and pay for satisfaction) relationships in existing research (Grant et al., 2007). First it provides a summary of the pay for performance literature considered in the preceding sections.

## 2.4. Pay for Performance Summary

There are still disagreements regarding the real relationship between bonus pay, motivation and performance (Pfeffer, 1997). While research has found indications of increased motivation and improved performance associated with bonus pay under some conditions (e.g. Engellandt & Riphahn, 2011; Kahn & Sherer, 1990), there is also research showing no or even negative relationships between bonus pay and both individual and organisational outcomes. On one hand, bonuses have been found to have a positive relationship with work



outcomes including increased productivity, effort, performance, and job satisfaction (e.g. John & Weitz, 1989; Lazear, 2000; Parent, 1999; Paarsch & Shearer, 2000). On the other hand, researchers have found that individual incentives such as bonuses are often surprisingly ineffective in increasing employee morale and productivity (Ariely, Gneezy, Loewenstein, & Mazar, 2009), may instead incentivise negative work behaviours or harm outcomes and can act as a signal to an employee of how they are viewed by the organisation, rather than directing behaviour (Bloom, 1999; Gardner, 1999; Grant et al., 2007). Given the ambiguous empirical evidence of the effects of bonuses, organisations making use of these kinds of remuneration systems take an imminent risk of obtaining unintended effects. One problem with bonuses seems to be the informational effect of bonus pay on the organisation. It appears from existing literature that while bonus pay is designed to motivate employees, it can also act as a trigger for social comparison and lead to appraisals of inequity, inequality or injustice. Given these other roles bonus systems play in organisational life, it is important to consider these relationships. If one of these informational effects of bonus pay is to inform an individual of their relationship within the social hierarchy of an organisation, or their position and worth relative to others, this thesis must begin to consider the evidence related to pay dispersion, inequality, inequity and performance. In these situations, the evidence suggests that it may not be the absolute amount of bonus received but the amount relative to salient others (and hence the distribution and dispersion of pay) which better explains outcomes. In the following sections this thesis therefore begins to consider this evidence.

## 2.5. Pay dispersion and Outcomes

As the research into pay and outcomes matures distinct avenues of research begin to open. One of the clearest avenues is the investigation of pay dispersion and outcomes. This avenue seeks to understand pay disparity and the differences in pay in organisational groups, and how this drives organisational dynamics. This has gained prominence in the national focus in recent years, with mandated action introduced to organisations in the UK to better understand pay dispersion in specific groups (for example the Gender Pay Gap; Blau & Kahn, 2007). Pay dispersion and performance offers an interesting lens providing insight into inter-organisational reference points and social comparison processes. Researchers have suggested a distinction between informational and incentive effects related to bonus pay, and potential interactions between the two effects (Pfeffer, 1997; Pokorny, 2008). Considering pay dispersion may help to explain these effects, as it is proposed that this particular avenue of research demonstrates why pay for performance is sometimes effective (when pay dispersion is warranted and acceptable), and why it sometimes produces

counterproductive outcomes (when pay dispersion leads to perceived undeserved inequality which directs behaviour away from outcomes). Research generally supports the idea that for workers with a degree of job complexity more wage dispersion is associated with improved performance, but only up to a point. After this the relationship changes direction and more dispersion is associated with lower performance, indicating an optimal level above which organisational factors such as perceived fairness may outweigh economic factors such as level of individual pay (Winter-Ebmer & Zweimuller, 1999). The findings are consistent with the hypothesis that too little inequality is harmful for productivity due to a lack of incentives, but there exists a justice or fairness constraint which leads to inefficient outcomes when inequality becomes too large. Similar to the evidence for positive relationships between bonus pay and performance there is contrasting evidence in the literature, as this thesis will discover.

The relationship between pay dispersion and outcomes appears to be at least partially dependent on organisational conditions and the type of work employees are engaged in. In highly independent jobs pay dispersion which results from bonus pay can have positive influences on performance (e.g. Shaw, Gupta, & Delery, 2002; Kepes, Delery, & Gupta, 2009). In these jobs internal comparison can be difficult, with equity monitoring rules such as an understanding of differential inputs difficult to apply. In areas where closer working relationships exist, and where inputs can be readily assessed, the evidence points to some contrary findings. In jobs where teamwork is required, when there is a visible difference in performance related inputs between team members Trevor, Reilly, and Gerhart (2012) argue that pay inequality does not lead to pay inequity in certain conditions. For example, if the variance in skill between individuals or the amount of effort provided is transparent then inequality will not be perceived as inequity or lead to a breach of fairness rules. Other research supports this assertion and highlights a mechanism by which pay for performance reveals underlying changes in returns due to skill differences (for instance where technological change rewards those who are able to best adapt), which in turn leads to more wage inequality (Lemieux, MacLeod, & Parent, 2009). These researchers have typically approached dispersion through the lens of equity theory, explaining that inequality of pay and inequity are not the same construct, and that inequality only has an effect on performance when the proportionality to performance relevant inputs cannot be assessed (Trevor et al., 2012). Others, however, argue that inputs play less of a role in determining fairness.

Research in technology and construction industries shows that where high pay disparities exist within groups, even when inputs are readily observable, collaboration is diminished (Siegel & Hambrick, 2005; Grund & Westergaard-Nielsen, 2008). This can have especially serious impacts in modern technology-driven industries as there is a considerable requirement for teams to coordinate and collaborate across divisions or functions (Grund & Westergaard-Nielsen, 2008). Many researchers have found that in an interdependent setting pay dispersion is detrimental to aggregate performance (Ferraro, Pfeffer, & Sutton, 2005; Harrison & Klein, 2007; Kepes et al., 2009), though contrary to the assertions of Trevor et al. (2012), these authors find that pay dispersion is detrimental to performance even if the dispersion is clearly tied to inputs. These authors suggest that this is because pay dispersion is sometimes associated with increased competition and dysfunctional team dynamics. Though this competition can sometimes improve individual performance it can also harm effectiveness when group performance is considered.

Economics research into wage inequality across organizations in the United Kingdom, Austria, Sweden, Denmark, Belgium and Germany has shown relatively little support for the idea that wage inequality contributes to poor performance directly (Braakmann, 2008). As with research considering pay and performance (e.g. Pokorny, 2008) and cognitive control and performance (Aarts et al., 2014), Braakman found a more complex relationship, suggesting an inverse-U-shaped relationship between wage inequality and performance. This suggests that inequality is associated with an increase in performance up to a point, but too much inequality can be associated with a decrease in performance. In Braakmann's work, the author explicitly suggests fairness as a mediating variable contributing to this relationship, with fairness concerns over-riding incentive effects at the apex of the suggested relationship. This thesis will discuss the fairness literature in more detail in section 2.7. This may indicate that fairness appraisals are not only be governed by equity rules alone, where inputs and outputs are monitored, but may involve a more complex relationship involving subjective preferences amongst employees and other factors such as allocation rules and organisational processes used to distribute rewards which lead to inequality (Kepes et al., 2009). The majority of pay systems have idiosyncrasies which mean that they use subjective judgement and bias as well as objective performance data when allocating rewards (Kepes et al., 2009). This again brings into focus procedural elements of justice, and allocation rules in determining whether inequality of pay is associated with perceptions of inequity or unfairness.

The negative relationship between pay inequality and performance has been replicated in various industries and activities. Studies in the United States involving baseball teams (Bloom, 1999) have shown that dispersion in pay (rather than amount of pay) has significant negative impacts across outcome measures for both individual players and the organisations they play for. Player performance was negatively related to more hierarchical pay dispersion, as were all measures of organisational performance (for example league position, turnover, profit). The authors also found that a player's position in the pay distribution moderated the pay dispersion-individual performance relationship, perhaps lending support for theories which suggest the importance of pay in indicating organisational social exchange relationships and the position of individuals in the social hierarchy (Pfeffer, 1997). Researchers have found evidence in the construction industry that pay level can communicate an individual's value to the organisation, therefore influencing performance via the psychological processes of self-evaluation (Gardner, Van Dyne, & Pierce, 2004). The authors found that within their sample although there was no statistically significant relationship between change in pay and performance, pay level was significantly related to both organisation-based self-esteem and performance. The research demonstrates that employees who receive higher amounts of pay feel more highly valued by the organisation. Those who feel highly valued are in turn rated as higher performers.

Another possible mechanism Gardner, Van Dyne, and Pierce (2004) suggest as a cause for the relationship between pay level and performance is that of perceptions of organisational justice. If participants perceived high pay levels as being fair and low pay levels as being unfair, this could produce the positive effects of pay level on performance, via justice perceptions. Though these two mechanisms (self-evaluation and justice) have been considered for pay level, there is a need to investigate them for other forms of pay such as bonus pay. This research is a good example of findings which are unable to clearly explain reasons behind the pay level-performance relationship, and so suggest multiple potential causes. It may, for example, be the case that fairness is not triggered by the amount in pay an individual receives relative to others (as suggested by Braakmann, 2008), but by the subsequent understanding of their status position in the social hierarchy which pay offers an individual, and which in turn leads to a negative self-evaluation and subsequently reduced satisfaction and performance (Gardner, Van Dyne, & Pierce, 2004).

As the research suggests, the relationship between pay dispersion and organisational performance is a complex one and has yet to reach any level of consensus. Some research suggests that there is no uniform relationship between wage dispersion and performance as it is dependent on the specific circumstances that a company faces (Jirjahn & Kraft, 2007).

There are a wide variety of moderating variables which must be taken into account, including the industrial relations regime, the incentive scheme used, whether other incentives are used instead of money (for example promotions in lieu of money where rank-order tournament theory is used within companies), and organisational values and norms. Jirjahn and Kraft (2007) do, however, support the findings in general pay and performance research that pay dispersion is associated with positive productivity effects where work is clearly programmable (or where there is little room for gaming the system), where social comparison processes are difficult, or where there is greater mutual monitoring and inequality is not seen as inequity for those 'deserving' of increased pay due to differences in effort or skill (Lallemand, Plasman, & Rycx, 2004). Other researchers suggest that this offers an incomplete view of pay inequality focussed too strongly on outcomes over processes, norms and values. In situations where piece-rates are paid for non-complex activities the inputs and outputs of others could be monitored reasonably easily. In more complex situations organisations must enact different processes and policies for rewarding different populations of the workforce. Frey, Benz, and Stutzer (2004) emphasize that workers are often not only concerned with the outcomes of performance related pay, but also with the ways these outcomes are determined. Their research suggests that team members may accept unequal wages if the process of determining pay accords with procedural fairness norms. Differential rewards based on skills and ability, or alternatively based on seniority and length of service may accord with such norms in certain situations (Lluis, 2005). These situational allocation rules may mediate pay and performance relationships to a greater extent than simple equity rules (Mason & Watts, 2009). As it appears that fairness may be more complex than simply monitoring equity rules and involve the monitoring of more complex allocation rules, it will add value to consider this literature on fairness, equity and justice in more detail and begin to investigate the depth of research concerning bonus pay, organisational justice and outcomes. First, due to the breadth and depth of justice research, it will benefit the development of clear hypotheses to narrow the attention on specific organisational outcomes to consider in this research.

## 2.6. Organisational Outcomes Considered in Existing Research

In order to effectively begin to address the scope of this thesis, it will be helpful to discuss the nature and types of workplace outcomes available for inclusion in this research. Given the range of outcomes available it will help at the outset of the development of hypotheses to understand the previous outcomes considered in pay and justice research. In practice (as with most researchers) an ideal solution would be to study in-situ performance as a result of bonus pay. This is, however, practically difficult. While bonus pay is relatively straightforward

to capture, outcomes are more difficult to identify and assess. Both task performance and cognitive performance have been studied in-situ in workplace settings (e.g. Cote & Miners, 2006) but this type of research has generally used supervisor ratings of both cognitive and task performance which in other research have been shown to be open to bias and error (Stauffer & Buckley, 2005). In some organisational contexts task performance is measured directly (such as piecework situations or other repeatable process-driven work), however these tend to be situations where outcomes are programmable or where clear and consistent performance indicators are in place (Boyce, 2011). Other outcomes considered by justice researchers include organisational citizenship behaviours, counterproductive work behaviours, turnover intentions and differing types of performance (cognitive, task and general). Which outcome-based variables to include in this research will need to be carefully examined.

In some places the pay for performance literature considered thus far uses organisational outcomes, performance, performance improvement, effort, productivity, turnover (or turnover intention), behaviour (in terms of organisational citizenship behaviour, counterproductive work behaviour and behaviour in itself), quality, satisfaction and specific malpractice such as fraud and falsifications of records as outcomes of research which are theoretically relevant. Many of these outcome variables can be discounted as areas of focus by simply considering the nature of the outcome, its frequency of occurrence, ease of identification and consistency as an outcome across organisations. An outcome is also sought which is relevant to a wide range of individuals to test the interpersonal and intrapersonal effects. In this way outcomes such as fraud, falsification of records and various counterproductive work behaviours can be discounted. Similarly, any research should retain construct validity overall, and so outcomes considered should have been demonstrated to have relationships in extant literature with the majority of the areas under investigation. In terms of these parameters, only a few outcomes and measures are theoretically consistent and empirically supported. In the initial positioning of bonus pay, three main reasons were provided for using this type of incentive; performance (or directing effort and attention towards goals), retaining employees (and so influencing the decision to leave), or to differentially reward skill or superior ability (which may in themselves be independent of performance consistent with talent arguments). Performance (as demonstrated in the literature related to pay for performance) is difficult to standardise and comes in many different measures, retention (or its mirror variable voluntary turnover) supports the suggestions of Hay (2012) that bonus is strongly related to intention to quit. It may be possible to assess superior ability, though there is little evidence in the literature for this outcome as a measure. By considering the outcome variables found in the literature related to these three categories this thesis can therefore

provide some justification for choosing turnover intention as a proxy outcome for inclusion in this research.

The performance outcome variables in research consistent with bonus pay, justice, emotions, social exchange and social comparisons include quantity of work and subjective quality of work (e.g. Mason & Watts, 2009; Aryee, Budhwar, & Chen, 2002; Bandura, 1986; Schelling, 2006), effort or effort levels (e.g. Engellandt & Riphahn, 2004; Mason & Watts, 2009; Gneezy & Rustichini, 2000; Konovsky & Pugh, 1994), and value delivered to the organisation (e.g. Lallemand, Plasman, & Rycx, 2004; Van Reenen, 1996; Gardner, Van Dyne, & Pierce, 2004), often also referred to as productivity. While turnover is not well researched in terms of the actual number of people leaving the organisation, turnover intentions are regularly included as a proxy outcome throughout current research (e.g. Grandey et al., 2002; Loi, Hang-Yue, & Foley, 2006; Colquitt et al., 2013; Harr & Spell, 2009; Sturman & Short, 2000; Tett & Meyer, 1993). Whilst there are inconsistencies in the measurement of performance (and the type of performance) across the existing literature, and little evidence linking bonus pay to superior ability in the workplace, the research incorporating turnover intention is therefore relatively broad. Turnover intention is theoretically relevant as keeping employees is one of the critical reasons bonus pay has become more popular as a remuneration strategy in recent years (Hay, 2012). As a construct it can be incorporated into research methods relatively easily, and measurement is not invasive in terms of impact in a workplace setting (and therefore may provide benefit when recruiting participants). There are, however, some clear drawbacks to using turnover intention. Whilst it is easier to conduct situational research using a composite measure this can introduce common method bias. There is also a nuanced view in the literature relating to turnover intention as to whether it is an accurate predictor of turnover behaviour (or voluntary turnover). Some researchers have shown that there is a strong association between intention and actual turnover (e.g. Parasuraman, 1982) however others have raised the more fundamental objection that turnover intention and turnover behaviour are not the same, and although research has suggested the constructs are correlated (and sometimes highly so) they are different constructs related to different organisational variables (Cho & Lewis, 2011; Goodman et al., 2015). Goodman et al. (2015) suggest that other variables (such as specific management practices) may predict turnover to a greater extent than aggregated turnover intention, questioning the relative strength of the turnover intention relationship. This introduces a limitation in the research which will (with others) be discussed at the end of this review of the literature.

In the next section the thesis will continue to review outcomes of the pay for performance argument and begin to discuss the fairness, equity theory and justice literature in more detail. Fairness and organisational justice are at the forefront of the reasons suggested by authors for the non-linear relationship between pay and performance and are cited as the critical factor in understanding pay dispersion and performance relationships. While equity rules are used by some authors (e.g. Trevor et al., 2012) to understand pay dispersion, others appear to point to procedural fairness rules as a mediating variable between pay dispersion and performance (e.g. Mason & Watts, 2009; Stajkovic & Luthans, 2001). Traditional equity rules (e.g. Adams, 1965) govern inputs and outputs to a transaction, but not procedural elements of that transaction, or other elements such as informational and interpersonal elements influencing social exchange relationships. In the next section the thesis therefore considers the evidence behind justice in more detail, especially as 'fairness' or its organisational construct comparator 'organisational justice' is often given as a reason for dissatisfaction in both pay and pay dispersion situations, and a key reason why employees leave their jobs if the bonus is perceived to be unsatisfactory (Hay, 2012; Kollowe, 2015; Dale, 2009).

## 2.7. The focus on fairness

One of the major ways in which media, politics, economics and psychology converge is in their focus on perceptions of fairness (or justice as its organisational correlate) as a critique of the negative consequences of financial incentives (and specifically bonus pay) and performance (Ashthana, 2010; Guth & Van Damme, 1998). Research has shown that when making decisions people care about fairness, even when there is no personal impact, and that these fairness perceptions can influence attitudes and outcomes (Colquitt et al., 2001). One critique of agency theory is that as a theory it deals only with relations between salient actors and ignores the effects pay decisions have on a broader set of organisational actors. The incentive effects may be limited to salient actors to agency relationships (Gomez-Mejia & Balkin, 1992), but informational effects of bonus pay are not limited to those party to the transaction. Instead informational effects may be salient to members throughout the organisation (Winter-Ebmer & Zweimuller, 1999). This can be seen in situations where (as an example) the pay of a chief executive officer of an underperforming organisation (arrived at through the negotiations of an agency relationship) is published, leading to potential information effects and fairness perceptions across the organisation (Wade et al., 2006). In this way agency relationships may exist between the principal and the agent, but fairness judgements may be derived by members of the organisation in general, which makes fairness a useful construct for exploring the wider effects of bonus pay. Researchers have



summarised that in terms of all arguments against increased inequality of pay (and specifically the sizable increase in executive pay) in organisations, the mechanism with the most validity when comparing the various outcomes is that of organisational fairness and justice (Harris, 2009). Using agency theory as a dominant framework for explaining pay for performance relationships ignores this mechanism.

Fairness is so important to people that they are often willing to pay out of their own pocket to punish those perceived as acting unfairly (Kahneman et al., 1986). Organisational members often use less overt means of punishment which manifest as adverse behaviours, increased resistance, or negative performance (Shaw et al., 2002; Cowherd & Levine, 1992). Research has shown that when lower-level managers perceive that they are underpaid relative to executives, they are more likely to leave the organisation (Wade et al., 2006). Significant relationships have been found between organisational justice and organisational commitment (Malmir et al., 2013; Barling & Phillips, 1993), levels of cooperation and effectiveness within teams (Sinclair, 2003; Moorman, 1991), withdrawal behaviours (Blakely, Andrews, & Moorman, 2005), intent to leave the organisation (Roberts, Coulson, & Chinko, 1999), accident rates, safety violations, product quality and productivity (Shaw et al., 2002; Cowherd & Levine, 1992). Research is generally supportive of the position that as perceptions of fairness increase, so do the levels of organisational citizenship behaviours (OCBs) demonstrated in the workplace, and as perceptions of fairness decrease, incidences of counterproductive work behaviours rise (Blakely, Andrews, & Moorman, 2005).

Research exists in both the economics and psychology literature aimed at understanding the differential impacts of incentive effects versus informational (and specifically relational fairness) effects of pay for performance systems in the workplace. There are three main reasons why employees care about fairness: instrumental reasons (because it helps them to control desired outcomes), relational reasons (it helps people to assess their standing and acceptance in a group), and moral reasons (because it is simply the right thing to do) (Martin & Bennett, 1996). There have been moves in economics and psychology to understand the differential impacts of incentive effects of pay versus informational (and specifically relational fairness) effects. Relational reasons would imply the availability of information about a reference 'group', whereas moral (and ethical) reasons for fairness may imply dispositional values related to fairness. This definition broadens our understanding of bonus systems as having incentive and information effects (Baiman & Rajan, 1995) to include moral and ethical effects (Martin & Bennett, 1996). This research is supported by studies which demonstrate that dispositional values (such as equity sensitivity) moderate the relationship between justice perceptions and attitudes and behaviours such as commitment and performance

(Organ & Ryan, 1995; Blakely et al., 2005; Pazy, Ganzech, & Davidov, 2006). These dispositional values can also be seen in economics games which test perceptions of fairness between salient actors and the decision making influenced by fairness perceptions. In 1982 Güth, Schmittberger, and Schwarze introduced the Ultimatum Game, whereby two people are involved (the principle and respondent), and the principle asked to split a financial sum. The split can then be accepted or rejected by the respondent. In their research, more than 30% of respondents rejected the amount, primarily due to fairness concerns and violations. Other research has supported this finding using the ultimatum game and various innovations (e.g. Lamichhane et al., 2014). The ultimatum game is often thought to be the starting point for all economists who wish to test the importance of nonmonetary components of utility in driving behaviour, a finding widely accepted to be contrary to predictions of agency theory (Anderson et al., 2011). Human social decision making in situations of inequity is viewed by some researchers as a competition between the norms of fairness and self-interest (Fehr & Fischbacher, 2003; Knoch et al., 2006; Pfeffer, 1997). Behaviours which reflect fairness norms over self-interested behaviour are hypothesised by some to reflect our values for social norms and inequity aversion (Fehr & Gintis, 2007).

As this thesis has demonstrated in the discussion of the pay for performance literature earlier in this review, fairness as a construct is often operationalised in different ways in research. Much of the research into 'fairness' in the workplace is based on equity theory, which uses a social exchange framework to evaluate fairness (Adams, 1965). According to Adams, the main concern of people is not the absolute level of outcomes (for example the level of bonus), but whether those outcomes are fair. In equity relationships fairness is determined by assessing one's level of contribution or 'inputs' (e.g. effort, performance) to one's outcomes (e.g. bonus pay) and then by comparing that ratio with the ratio of a comparison 'other' or referent. Although this comparison of input-outcome ratios lends equity theory an objective component (though this may be the case only if both inputs and outputs are readily assessable), equity theory is clear that this appraisal process is entirely subjective in its operation (Adams, 1965). Using equity lenses as a basis for understanding fairness perceptions is reasonably common practice in research considering pay, with relatively current research employing this strategy (e.g. Lemieux et al., 2009; Trevor et al., 2012). There are however limitations to this approach which have led to subsequent constructs being developed. The most popular of these to emerge in recent years is that of organisational justice.

### 2.7.1. Introducing Organisational Justice

Greenberg (1990, p. 400) provides a description of organisational justice research as *'attempts to describe and explain the role of fairness as a consideration in the workplace'*. As a construct it seeks to incorporate a broader set of allocation rules than traditionally governed by equity theory, for example allocation based on need, norms or equality (Leventhal, 1976). Organisational justice extends input-output resource allocation (referred to as distributive justice) to include the perceived fairness of decision-making procedures (or procedural justice; Thibaut & Walker, 1975) the interpersonal treatment people receive during situations where fairness appraisals are made (interpersonal justice; Bies & Moag, 1986) and the perceived fairness of explanations of allocation used during the process (informational justice). The combination of field and laboratory research into organisational justice has led to it becoming one of the most frequently researched topics in human resource management and organisational behaviour over the past three decades (Cropanzano & Greenberg, 1997). Rather than consider traditional equity rules recent research has tended to use the broader construct of organisational justice, not only because it offers greater granularity as to why fairness is an issue, but it also offers greater validity and reliability as a measure (Colquitt et al., 2013). The research has accelerated post-millennium following a range of meta-analytical studies (e.g. Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Viswesvaran & Ones, 2002). The incidence of articles in academic journals related to organisational justice supports this. Whereas a PsycINFO search on justice in organisational psychology and human resource management journals yields over 600 articles from 1975 to 1999, the same search from 1999 to 2010 yields over 1,600 journal articles (Colquitt et al., 2013). The dimensions of organisational justice and descriptions of each of the justice scales are detailed in Figure 1.

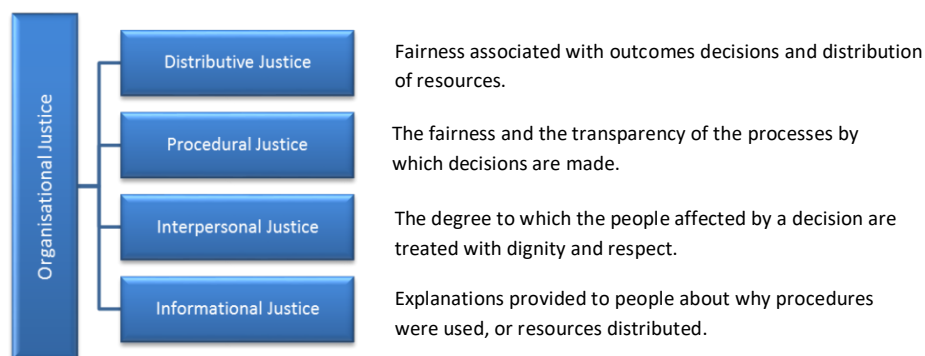


Figure 1. Organisational Justice Components. Source: Colquitt (2001).

### 2.7.2. Organisation Justice and Outcomes

Due to the volume of research incorporating organisational justice, there is a wealth of evidence supporting relationships between justice perceptions and organisational attitudes, behaviours and outcomes (Lee, 1995; Skarlicki, Folger, & Tesluk, 1999). There is also a wealth of evidence suggesting that the lack of predictable relationship between the amount paid and satisfaction with pay is at least in part to be due to relative social comparison and justice effects present in the workplace (Bloom, 1999; Grant et al., 2007). Research considering the dynamics between pay and pay satisfaction has shown both direct and mediated relationships between the constructs, with non-monotonic relationships between pay and pay satisfaction suggested in part to be due to the mediating effect of justice attitudes. Across the literature, however, there appear different effects for differing scales of justice. Distributive justice has been found to correlate significantly and moderately ( $r > .5$ ) with attitudes such as outcome satisfaction, job satisfaction, organisational commitment, trust and outcomes such as withdrawal behaviours. Moderate significant relationships have also been found in research between distributive justice and organisational citizenship behaviours, negative workplace reactions and employees' evaluation of both supervisor and organisational authority (Colquitt et al., 2001). Procedural justice demonstrates similar relationships to distributive justice, though the effects are generally smaller in magnitude (Colquitt et al., 2001). Both interpersonal and informational justice demonstrate stronger relationships with organisational citizenship behaviours and evaluation of authority than procedural or distributive justice components, though they are less strongly related to outcome satisfaction, job satisfaction and organisational commitment (Colquitt et al., 2001). It is important to note however that this research largely considers pay in general rather than bonus pay as a specific form of remuneration. Consequently, there is a need for research considering the relationships between bonus pay, social comparison processes, justice and organisational outcomes.

There is a growing volume of literature on the role of justice perceptions in decisions and processes related to pay, pay systems and pay inequality. Research has demonstrated significant relationships between organisational justice and pay satisfaction (Folger & Konovsky, 1989; Lee, 1995; Colquitt, 2001) and has also found evidence that pay dispersion within the workplace directly impacts performance through the mediating variable of organisational justice (Shaw et al., 2002; DeConinck & Stilwell, 2004). Interestingly, there has also been research conducted into justice perceptions and type of pay (Tremblay et al., 2000), though this research is limited when compared to that including 'pay' as a general term. In a sample of Canadian employees participants clearly distinguished between pay

satisfaction and satisfaction related to benefits (in which bonus pay is included as a component). The authors found that distributive justice perceptions are better predictors of pay satisfaction than procedural justice perceptions, but that this result is reversed for benefit satisfaction, where procedural justice perceptions are better predictors than distributive justice perceptions. This indicates that pay and benefits (such as bonus payments) are appraised differently by employees (Tremblay et al., 2000). It is worth noting however that the findings of this research are based on a largely female sample where wages fall into the lower pay brackets, and so may not be representative of the broader workforce (perhaps explaining why pay and benefits are treated differently if pay has lower instrumental value). 'Benefits' are also grouped and investigated as a broad concept, and while they include bonus pay, they also include other benefits available to employees. This finding of the different value of different dimensions of reward has however been supported by other justice researchers (e.g. DeConinck & Stilwell, 2004; McFarlin & Sweeney, 1992; Cohen-Charash & Spector, 2001; Welbourne, Balkin, & Gomez-Mejia, 1995) who suggest that pay is a multidimensional construct involving different dimensions such as pay level, pay increase, pay structure, benefits and pay administration, each proposed to have validity, and each exerting a different effect on outcomes. The reasons for these differences are suggested to be partly based in social exchange relationships. When a procedure is viewed as indicating a positive, high status relationship it is judged to be fair (Tyler & Degoe, 1995). People value procedural indications that let them know that they have a positive standing within the organisation often more highly than perceptions of pay equity. Bonus pay is suggested as being one such means of judging the social exchange relationship, but as suggested by Tremblay et al. (2000, p. 270) bonuses have received limited attention when considering these relationships as 'studies of organisational justice have, for the most part, been limited to considerations of the pay level and pay increase dimensions'. The authors go further and suggest that the lack of focus on bonus pay as a form of remuneration is 'surprising when one considers the growing importance of employee benefit costs in overall employee compensation packages' (Tremblay et al., 2000, p. 270). It would be useful, therefore, to add to the current body of knowledge by investigating these relationships. Because of this weight of evidence there is value in considering bonus pay as a specific pay dimension in justice research. This thesis can suggest further hypotheses related to organisational justice which are supported in previous pay research, but have received limited attention when extended to situations of bonus pay:

*H2a and 2b: Organisational justice as a result of bonus pay is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention.*

As well as considering pay as an absolute measure, research has also been conducted into organisational justice and wage inequality in pay situations. In this context wage inequality refers to the extent to which wages are distributed unevenly within a population (Moretti, 2013). Braakmann (2008) found an inverse-U-shaped relationship between wage inequality and performance, seeming to support other findings where an organisational threshold which is crossed where inequality becomes an organisational justice issue sufficient in magnitude or effect to change from being a motivator to harming motivation (Braakmann, 2008). This offers further support for the suggestions made in the fairness research of the existence of a 'tipping point' when norms of fairness and self-interest intersect, where the mediating effect of justice on pay for performance relationships becomes critical (Fehr & Fischbacher, 2003). Because of these recurrent suggestions of justice as a mediator in pay – outcome relationships, further hypotheses can be developed related to this research into bonus pay and outcomes. Justice in pay situations has been shown to mediate both pay and satisfaction relationships and pay and turnover intention relationships (Tremblay et al., 2000; Colquitt et al., 2001) therefore from both a theoretical perspective and consistent with previous research findings this thesis can expect a similar mediating relationship for bonus pay. Previous research has suggested that bonus pay is a source of justice perceptions and that bonus pay exerts an effect on both satisfaction (Grant et al., 2007) and turnover intention (Mason & Watts, 2009; Hay, 2012). Consequently, it would add to the current body of pay research to investigate these relationships for bonus pay as a specific form of remuneration. This thesis therefore suggests a further hypothesis:

*H3a and 3b: Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention*

As the balance of previous pay research has suggested that distributive justice better predicts pay satisfaction than other justice scales (e.g. Day, 2011; Folger & Konvsky, 1989; Colquitt et al., 2001) this also suggests that different scales of justice will have different predictive abilities when related to bonus satisfaction. There are theoretical reasons to expect that distributive justice will better predict bonus satisfaction tracing back to the original inception of organisational justice as a theory which is predicated on decisions made in the judicial system. In these situations, studies show that a defendant's reactions to the outcomes or satisfaction with verdicts were more strongly predicted by distributive justice than other justice scales (Tyler, 1984). Procedural justice is a stronger predictor of system or institutional characteristics. Studies in the organisational setting have also supported this view that distributive justice is a stronger predictor of specific, shorter term personal outcomes (such as satisfaction with bonus pay) than procedural, interpersonal or

informational justice (McFarlin & Sweeney, 1992; Folger & Konovsky, 1989; Tremblay et al., 2000), which more strongly predict longer term relationships with institutions or their representatives (such as commitment or trust; McFarlin & Sweeney, 1992). This finding speaks to the definitions of both distributive and procedural justice, with distributive justice seeking to explain how individuals react to the amount and form of compensation they receive compared to procedural justice which examines the reactions of individuals to the procedures used to determine compensation (Tremblay et al., 2000). This is thought to explain why satisfaction with some longer-term elements of reward such as benefits (as a general term), holidays or pensions are suggested to be more closely predicted by procedural justice. These outcomes are thought by some to be associated with group affiliation and become more valuable over time. As an employee invests more time in the organisation, these benefits can become more valuable, therefore the procedures governing the use of these benefits may become more important as the employee may not experience the outcome of the reward for some time (McFarlin & Sweeney, 1992). Contrary to this distributive justice reflects the fairness related to allocation of resources, which may be shorter term in nature and is clearly apparent when bonuses are distributed.

Existing research has shown that distributive justice accounts for more variance in pay satisfaction dimensions than other justice components (Day, 2011). Folger and Konovsky (1989) found distributive justice was a better predictor of pay satisfaction than procedural justice perceptions and explained more variance in pay satisfaction than did procedural justice. McFarlin and Sweeney (1992) studied the relationship between distributive justice and procedural justice on personal and organizational outcomes and found that distributive justice is a stronger predictor of two personal outcomes (pay satisfaction and job satisfaction) compared to procedural justice, which more strongly predicted commitment. In another study, distributive justice relating to pay and rewards was found to be a stronger predictor of job satisfaction and turnover intentions than other justice components (Harr & Spell, 2009). The volume and range of research using organisational justice as a construct allows this thesis a breadth of literature related to pay, though there is a shortage of justice research related to bonus pay as a specific form of remuneration. Consequently, there is a need for research considering justice reactions to bonus pay more broadly and considering the specific types and strength of justice associated with bonus pay as a form of remuneration.

Whilst there is evidence that distributive and procedural justice reactions are differentially important when different pay methods are used (Tremblay et al., 2000), there is precedent in pay research for believing that distributive justice will be more effective in predicting pay

satisfaction. In general, the findings in the current literature show that distributive justice is more strongly related to pay satisfaction and task performance than procedural justice (Tremblay et al., 2000; Colquitt et al., 2013). Procedural justice regarding pay provides a better explanation of organisational citizenship behaviours and commitment (Colquitt et al., 2013; Martin & Bennet, 1996; Tremblay et al., 2000). One of the weaknesses of the research considering distributive and procedural justice is that much of the research predates the work of Colquitt et al. (2001) which suggests the four-factor approach to justice (incorporating distributive, procedural, interpersonal and informational justice). In the work of Folger and Konovsky (1989), Cowherd and Levine (1992) and Tremblay et al. (2000) only distributive and procedural justice are considered. Procedural justice typically also includes elements of communication and elements of interpersonal treatment associated with the process used in allocation of rewards. It is therefore questionable whether the construct of procedural justice used in these investigations is a distinct construct consistent with that described by Colquitt et al. (2001), or whether the construct used is an amalgam of procedural, interpersonal and informational justice. Because of these findings, however, this thesis can develop a further hypothesis which is supported by existing research:

*H4: Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components.*

The justice literature has matured to an extent that there are a number of available avenues of research which would build on the current knowledge. The increasing popularity of fairness and justice as a research topic and the variety of related variables means there are many potential opportunities to gain a deeper understanding of the current justice literature. These include research investigating dopamine synthesis in justice relationships (Aarts et al., 2014), the neural pathways involved with in justice appraisals (with heightened activity recorded during fMRI investigations in the right dorsolateral prefrontal cortex; Lamichhane et al., 2014), evolutionary gene theory and its application to justice (Liu & Lu, 2016), the relative personality traits associated with justice appraisals (Törnroos et al., 2019) and further work on broadening the situational justice responses to workplace events (Cropanzano & Ambrose, 2015). The opportunity for this thesis to address many areas of research means more careful targeting of the scope of this research. The contribution to theory of this thesis falls into two distinct areas which will inform the remainder of the literature review. Firstly, the thesis seeks to test hypotheses drawn from the research on pay to see whether these relationships hold for bonus pay as a specific form of remuneration. Secondly, the thesis seeks to venture into new territory by considering the emotional reactions to bonus pay, and the relative effects of emotion and social exchange relationship quality components of justice



on organisational outcomes. Therefore, a careful consideration of this literature (and the gaps in the research identified in the literature) is required. In the next section this thesis will review the research investigating the relationships between social comparison mechanisms and organisational justice. This is an area where there is a body of research for pay, but little research for bonus pay. Consequently, there is an opportunity to add to the knowledge in this area by investigating these relationships. The review will then continue to focus on outcomes in the literature concerned with justice, emotion and social exchange relationships, and begin to outline hypotheses which contribute to the current knowledge in these areas.

Although social aspects of justice have been examined throughout the current body of research, there are also identified weaknesses in theoretical equity-derived models. Adams (1965) equity theory which stipulates that for a state of equity to exist between two parties they must receive some appropriate rate of return in social exchange defined in terms of the ratio of outcomes relative to inputs compared to the corresponding ratio of some referent other. Adams himself raised concerns about the limitation in his theory to specify the form or use of these referent others (Adams & Freedman, 1976). To counter this limitation, it is therefore important to further investigate the fundamental role social comparison plays in the formation of justice appraisals in pay situations. In some cases, equity judgements are based more strongly on social comparison than general expectations (Austin, McGinn, & Susmilch, 1980), and even when objective information is available on which to judge performance considerable weight is placed on social comparisons in decision making where rewards are considered (Seta, Seta, & McElroy, 2006). In this context, fairness implies that rewards are allocated in a manner that effectively balances the interests of a range of different actors (Nickerson & Zenger, 2008). Comparisons with relevant others is a matter which flows through the majority of pay research. Relational reasons for justice highlight how well an employee is valued and their standing in the group, similar in nature to the concept of the informational effect of incentives discussed earlier (Bies & Moag, 1986). Naturally then it becomes relevant to this discussion of bonus pay and justice to consider social comparison mechanisms and referent choice in more detail, particularly to investigate the depth of research already considering social comparison in bonus pay and justice situations (Nickerson & Zenger, 2008).

## 2.8. Justice and Social Comparison

It is perhaps unsurprising given the importance of referents in a significant number of social exchange theories and the rise of justice as an avenue of research in literature that there is a growing body of work concerned with justice perceptions and reference choice. Justice evaluations are made via the use of justice principles, and these typically involve evaluations of justice against specified reference points (for example, the size of my bonus is exactly what I deserve) (Cropanzano & Ambrose, 2015). Complexity emerges as it is suggested that different elements of justice may use different reference points in order to come to a decision, and that often multiple reference points are used. Researchers have suggested that though distributive justice is considered relative to another person, procedural justice is sometimes evaluated against abstract moral standards (Greenberg, 2002), which has made the selection of referents across justice components difficult to assess. The argument for these two referent selections has largely led to the maintenance of a distinction between procedures and outcomes in justice research considering referent selection. This argument has come under some scrutiny in recent years however, with some researchers claiming that all justice components are really a type of outcome and therefore will have a social comparison mechanism attached (Greenberg, 2002). An employee may suffer less injustice at a lack of ability to voice concerns if the same lack of ability exists for everyone, for example, whereas if some employees were able to voice concerns then it is likely that more injustice would be perceived as they offer a clear emergent reference group.

There are relatively few investigations into the social comparisons used in justice evaluations, and in the main these studies are restricted to laboratory situations using students as participants and so may not be generalisable (Folger et al., 1979; Ambrose, Harland, & Kulik, 1991; Grienberger, Rutte, & van Knippenberg, 1997). Ambrose et al. (1991) found that social comparisons did not influence perceptions of procedural justice, and that procedural justice ratings were largely determined by the favourability of outcomes obtained, though when this study was replicated by Grienberger et al. (1997) the researchers found that procedural justice is defined relative to a social standard or set of norms. This finding is supported by Greenberg (2002) who suggests that contrary to initial suggestions social comparison is important for determining all components of justice. Specifically, in the case of pay, social comparison forms the underlying psychological process that transforms useful information on others' incomes into self-evaluations which explain why some people are more (or less) satisfied with their earnings or why they consider their earnings as more (or less) fair (Greenberg, 2002). Social comparison researchers have highlighted organisational justice as a 'potentially fruitful area in which to

develop further the role of social comparison processes' (Greenberg et al., 2007, p. 23). Certainly if people select different referents situationally, and in doing so arrive at different fairness conclusions it would add depth to the literature to consider co-occurring appraisals regarding referent choice and justice perceptions for specific organisational events such as when a bonus is paid (Buunk & Gibbons, 2007). The research of Greenberg (2002) suggests that decisions concerning pay fairness cannot be made, in fact, without comparison to the pay of others. This thesis will therefore delve further into the literature concerning referent selection and pay, considering the individual referents and referent groups used by employees in pay appraisals, the types of pay and different reference points used in appraisals concerning these types of pay, and the impact of the selection of these reference points on attitudes and outcomes where pay is involved. The thesis will show that while the research considering social comparison and pay is reasonably broad, the research considering bonus pay as a specific event which draws social comparison is weak. Instead, the literature appears to assume that referents selected in pay contexts are the same independent of the type of pay. This may lead to false assumptions, as this thesis has demonstrated previously that justice attitudes to pay in the form of salary and bonus are different (Tremblay et al., 2000), and it is possible that it is the choice of referent in these different situations which influences these different attitudes.

#### 2.8.1. Social comparison, referent selection and pay

An understanding of the social comparison process is crucial to reveal how individuals evaluate themselves and others in a set condition (Law & Wong, 1998; Gerlach, Levine, Gesine, & Struck, 2006; Wade, O'Reilly, & Pollock, 2006). Individuals, when evaluating their own rewards, compare themselves with others, whether these are colleagues, family, friends, or abstract referential standards (Goodman, 1974). Where pay and justice appraisals are considered, there exists a range of research into the referents used in the decision-making process for these judgements. In an investigation into referent selection and distributive justice involving groups of employees representing hourly workers, lower-level managers and the top three levels of management, researchers found that pay comparisons influence justice perceptions and exist across all levels of the organisation. The authors suggest that within an organisation there may be multiple reference points used by individuals when making pay comparisons (Cowherd & Levine, 1992; Gerlach et al., 2006). Similar research conducted by Wade et al. (2006) demonstrates that although similar others are most likely to be chosen as referents, upward comparisons are frequently made in order to determine one's relative performance against standard setters, and position in the social hierarchy, even when these comparisons may be ego deflating (Nosanchuk & Erickson,

1985; Wheeler et al., 1982). Thus, people in organisations may use more senior colleagues as referents to help understand their own pay and performance in the context of the broader organisation (Kulik & Ambrose, 1992). Research has shown how aspects of the situation or organisation may act to prime these judgments by making certain information more readily available. Kulik and Ambrose (1992), for instance, noted that when certain informational categories become accepted as available and relevant, these categories may become cognitively salient such that comparisons are routinely made. If it becomes the norm within an organisational setting to compare pay with that of executives or the CEO (whose remuneration may be published in the case of some organisational structures) then this will become an accepted and relevant comparison point. Within the broader society, as the issue of pay and bonuses gains media coverage and demands more attention, it is possible that the availability of information (such as the pay packages of bankers, MPs, supermarket executives and CEOs published widely in the media; Butler, 2015; Treanor, 2015) may therefore allow more employees to identify aspects of pay and pay referents as cognitively salient.

The choice of referent against which to compare individual pay is not dependent solely on information availability. Dornstein (1988) suggests that the choice of referent (or referents) is dependent on two factors, one being the availability of information about referent categories and the other being the perceived relevance of these categories, a finding supported by others (Law & Wong, 1998; Kulik & Ambrose, 1992). This introduces two potential areas of investigation, the available information about referents and the importance of those referents to decision making in justice appraisals. Because of these constraints some have suggested that referent choice is naturally limited, perhaps to as few as one or two referents in number (Oldham et al., 1982), yet this has not received a great deal of support in literature. Instead, researchers tend to point to a range of categories of referent from which an individual chooses, based on this availability of information and perceived relevance. Blau (1994) suggests a model of referent selection with five comparison points: social, historical, market, organisational and financial, with the potential of one or more referents coexisting in these categories. A selection of research seeks to identify the specific referents people choose when making pay comparisons. Goodman (1974) found during an investigation of 217 managers that respondents in the main tended to use multiple classes of referents when making pay comparisons. The most common choice of referent included people in a similar job in the same organisation (consistent with target similarity arguments introduced earlier in this thesis; Major & Forcey, 1985), members of a professional society, friends and neighbours and both media and corporate reports on earnings. The author found that when evaluating their pay people also used referents related to the work system (for example

structural and administrative aspects of the pay system or normative expectations learned over time), and referents related to the self (for example the ability to maintain a familial standard of living or input/output ratios of the current job in relation to previous jobs) (Goodman, 1974).

More recent research into pay referent selection adds support to the 'many referents hypothesis' (Schneider, 2010; Mayraz et al., 2009; Clark & Senik, 2010). These authors suggest that the working sphere (colleagues and members of the same profession) tend to be the most important point of reference in deriving satisfaction from pay comparisons, whereas neighbours are the least important. Others have supported the view that the majority of employees use multiple referents when comparing their pay with others (Dornstein, 1988; Goodman, 1974; Hills, 1980; Brown, 2001; Bygren, 2004; Koop & Johnson, 2012). Referents selected (in order of frequency) are typically co-workers, managers, subordinates, market rates and those in similar positions in other companies. When multiple referents are investigated co-workers in general are found to be the most relevant referent in pay and justice appraisals (Brown, 2001; Clark & Senik, 2010). Schneider and Schupp (2010) found that out of nine potential pay referents 'colleagues' and 'people of the same profession' were rated as the most relevant referents when making justice appraisals related to pay. Bygren (2004) suggests that earnings of similar others in the same occupation and labour market are most influential in comparisons, a finding supported by other researchers (Loscocco & Spitze, 1991; Williams, 2006). Law and Wong (1998) found that, consistent with previous research, the majority of participants use multiple referents when comparing their pay with others. Using an inferential approach, regression weights with colleagues ( $\beta = 0.33$ ), family and close friends ( $\beta = 0.29$ ) and supervisors ( $\beta = 0.22$ ) are statistically significant. A direct interpretation is that colleagues are the most important referent in determining pay level satisfaction, with family and close friends, and supervisors also important referents in determining pay satisfaction. Interestingly a proportion of referent researchers suggest that referent choice may be event-driven and situational (e.g. Schneider & Schupp, 2010; Law & Wong, 1998) indicating that the choice of referent in pay situations may not be the same as the choice of referent in bonus situations. The authors suggest that not only are reference points dependent on the event, they also predict outcomes differentially. They found that, for example, a person who uses an external referent will be more likely to leave the organisation than one using an internal referent if the comparison is unjust (Scholl et al., 1987), and that the choice of internal or external referent may be dependent on the workplace event which leads to the comparison. This provides an opportunity to add to the current research on referent selection by considering the referents

chosen in bonus pay situations, as there is little social comparison research which investigates this form of remuneration.

A significant portion of the social comparison literature tends to focus on factors affecting the choice of referent selection such as level of professionalism, role (Goodman, 1974; Summers & DeNisi, 1990), work group membership (Ambrose & Kulik, 1988), mobility opportunities (Dornstein, 1988) and similarity of the referents (Major & Forcey, 1985; Major & Testa, 1989). There is also a growing body of work considering situational factors in referent selection (e.g. Oldham, Kulik, Stepina, & Ambrose, 1986), and in particular the different workplace events which are associated with social comparison processes. While these events are reasonable broad, there is little research into referents in bonus specific situations. In a rare case Ockenfels, Sliwka, and Werner (2010) considered bonus payments, referent selection and their relative effects on job satisfaction in samples of US and German employees in the same company. The authors found that if a manager's bonus falls behind the co-worker referent, self-reported job satisfaction is significantly reduced, and falling behind the referent had a much stronger effect on satisfaction than being ahead of the referent. This research is, however, limited as it only considers two classes of referent, co-workers (those in the same company at the same level) or managers (those in the same company at a higher level). Previous referent research into pay has considered many more classes of referent, and considering the range of research there are many more classes of referent available for inclusion. The issue of which referents are selected in bonus pay situations has received little attention, and no clear-cut picture emerges for the differential selection of reference groups. It is proposed that this lack of clarity is in the main due to the unavailability of income information for various groups (Schneider, 2010).

Referent researchers have also suggested that the choice of referent is stable over time. Kulik and Ambrose (1992, p. 233) argued that referent stability was the result of the determinants of referent relevance, 'because personal characteristics are a primary determinant of referent relevance, the total set of relevant referents might be relatively stable over time.' Which referents are chosen therefore depends on who is doing the choosing. Major and Forcey (1985) suggest that the degree to which unfairness is perceived is determined by the relevance to the self of the comparison target. A number of personal characteristics have been shown to have an effect on referent choice. People maximize similarity in wage comparisons by preferring same sex and same job over cross sex and combined sex wage information (Major & Forcey, 1985). Gender, age and organisational tenure can affect referent choice. Kulik and Ambrose (1992) argue that as people age, they are more likely to make self-comparisons because there are fewer people of their age group

with which to make comparisons. Early in an individual's career, comparisons to other inexperienced employees within the same company may be most appropriate. Individuals with longer tenure are more likely to have acquired more information about employees both within and without their own organisations. Hills (1980) found that low tenure was associated with historical comparisons, with employees more likely to use past pay. Employees with long tenure were less likely to make market comparisons and more likely to make comparisons within their organisation (Hills, 1980). Position in an organisation was found by Oldham et al. (1986) to be important in referent choice. Upper salary echelon employees tend to use external referents to a greater extent as a consequence of higher labour mobility and access to information. Goodman (1974) investigated a number of factors related to referent choice in pay satisfaction appraisals and found that educated employees were more likely to use external referents than employees with less education. This is congruent with the assumption that inter-organisational mobility is less for lower educated employees (Breen et al., 2007). Additionally, individuals with lower salary levels are more likely to select inside referents than those with higher salaries. Individuals also differ greatly in the degree and strength to which they compare themselves with others, and don't apply social comparisons evenly (Schneider & Valet, 2013; Buunk & Mussweiler, 2001; Wheeler, 2000). Researchers even speak of a 'disposition towards social comparisons' (Gibbons & Buunk, 1999). In all of this pay research, however, it is interesting to note that the authors focus on salary rather than on forms of variable, outcome-based pay such as bonus pay.

Theoretically, Akerlof and Yellen (1990), Mui (1995), Nickerson and Zenger (2008) and Larkin et al. (2012) have focused on various negative effects associated with workplace social comparison involving pay policies which incentivise individuals. Most of this research has, however, considered whole pay systems (of which bonuses are a component) rather than specifically considering bonus pay. The research typically assumes that the referents chosen by employees are the same in merit or bonus pay than in general pay situations. In these theoretical models (e.g. Larkin et al., 2012) the authors argue that social comparison costs reduce the effectiveness of individual performance-based pay because of the psychological costs of introducing injustice into an organisation. This perceived injustice offsets the effort benefits of performance-based pay and introduces additional costs. In terms of referent choice made when bonus payments are issued, Folger's (1987) referent cognitions theory (RCT) was predicated on experiments using bonuses, with students given experimental credit as a bonus and asked to make judgements on their perceived levels of justice related to two referents. This theory was also amongst the first to add specific instances of procedural justice and also to note an important affective component in justice appraisal and so was important in developing our current understanding of organisational

justice. Referent cognitions theory is nowadays, however, seen as a conceptual bridge between equity and justice theories as it fails to include aspects of interpersonal justice and informational justice and so is considered limited by justice theorists (Cropanzano et al., 2011). Various researchers have provided support for the importance of social comparisons in pay and justice evaluations. This research generally shows that individuals who earn less compared to similar others are more likely to perceive their earnings as unjust compared to those who earn more or equal amounts and are therefore more likely to reduce effort or leave the organisation (for examples see Card, Mas, Moretti, & Saez, 2012; Liebig, Sauer, & Schupp, 2012; Schneck, 2013). Consequently, there is a need for research considering bonus pay as a specific form of pay and referent selection in determining satisfaction with a bonus. Consistent with findings in traditional pay research considering referent selection, and addressing the issue found in previous literature that the choice of referent can be associated with satisfaction judgements we can hypothesise that:

*H5: a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.*

There are some basic limitations to the current research on pay and referent selection. Studies in general consider only one dimension of pay satisfaction, that of pay level, and do not consider other dimensions such as pay rise, bonus or benefits (Heneman & Schwab, 1985; Scarpello, Huber, & Vandenberg, 1988). Consequently, there is a need for research in this area. This thesis has already discussed research which demonstrates that different referents are chosen depending on the situation considered (Scholl et al., 1987), and the choice of referent (or referents) may influence conclusions about the fairness of work arrangements (Buunk & Gibbons, 2007). It may therefore be salient to consider the distinct situation of bonus pay (as opposed to the more common research representing salary or general pay) which has been shown to raise distinct attitudes when compared to other pay methods. The choice of referents is also generally limited in current research with at best five referent groups included in current methodologies, though many more groups available when aggregating referents used across research. There is therefore an opportunity to combine research into justice and bonus pay with research including referents used in social comparison mechanisms to better understand their effects. The biggest challenge to the majority of studies considering peer effects of pay is the inability to actually observe or assess social comparison occurring in pay situations, but instead having to infer it from available data or rely on retrospective analysis (Gartenberg & Wulf, 2014). This may be one



reason why research investigations involving referent selection in bonus specific situations is rare, as conducting research specifically into bonuses requires access to participants during a specific organisational context and with participants willing to share personal and confidential information. Specifics of social context influence justice evaluations, and social comparisons within these contexts are viewed as a central mechanism that helps individuals to evaluate themselves (Goodman, 1974; Schneider & Valet, 2013). In cases of bonus pay, where individual self-evaluations may generate organisational and personal sensitivity, research considering these evaluations may be difficult to undertake.

Having outlined the relationships in pay and justice research where it would be useful to investigate bonus pay as a specific form of remuneration, and where investigating relationships related to bonus pay will add to the current body of research, this thesis can now consider affective (or emotional) reactions to bonus pay. The remaining sections review the current state of play in justice research, which has tended to coalesce around two distinct viewpoints from which to consider justice relationships, the emotional viewpoint and the social exchange relationship viewpoint. In the following sections this review highlights the evidence behind these two viewpoints and considers some of the theoretical and practical limitations which have prevented emotion and social exchange as being treated as dependent phenomena. While there is research considering emotional reactions to pay, and the relationship between these emotional reactions and both justice and organisational outcomes, and also research considering social exchange relationship quality aspects of justice and their relationship with outcomes, there is little research considering these two lenses as co-occurring and inter-related. This is an area where there is a clear opportunity to contribute to the current understanding of organisational justice as a construct. It is also an area and where other factors such as workplace events come into consideration, as different workplace events elicit different emotions and influence social exchange differentially. By considering bonus pay as one such workplace event this thesis can begin to understand not only the effects of bonus pay on justice, but the emotional and social exchange effects of bonus pay in relation to other workplace events.

## 2.9. Organisational Justice, Affect and Social Exchange

Organisational justice is an attitude towards the behaviour of the organisation or actors within the organisational setting (Greenberg, 1987), and so consistent with current research on attitudes will have affective (or emotional) as well as cognitive components when directing behaviour towards outcomes (Eagley & Chaiken, 1993). As organisational justice research has progressed and grown in stature and depth, the literature has settled around

two reasonably distinct (though some research would suggest complimentary and interactional) lenses to view the construct. The first of these lenses concerns justice as a 'cognitive' indicator of social exchange relationship quality, and the second involves viewing justice as affective, in that employees 'feel' justice as an emotion (Barclay & Kiefer, 2019; Cropanzano, Stein, & Nadisic, 2011). Justice research has tended to focus on one or another of these two lenses, however this thesis will show in the following sections that there have been a number of calls for researchers to combine these two lenses using more sophisticated research methods. This is a clear gap in the current justice research which this thesis seeks to address.

### 2.9.1. The two lenses for viewing justice

Social exchange relationship quality has become the dominant viewpoint for explaining justice effects (Colquitt, 2008). The construct explains how different types of benefits are exchanged according to various rules and how such exchanges foster high quality relationships (Cropanzano & Mitchell, 2005). Some authors have proposed that achieving 'fairness' in a justice sense causes employees to redefine their working relationship as one of social exchange, with effort and performance serving as an exchangeable resource (e.g. Moorman, 1991; Konovsky & Pugh, 1994). This resource exchange is often conceptualised as a trade in reciprocate behaviours (Aryee et al., 2002; Rupp & Cropanzano, 2002; Wayne, Shore, Bommer, & Tetrick, 2002). The mechanism by which positive reciprocal behaviours (such as task performance and organisational citizenship behaviours) are thought to be elicited is through improved quality of social exchange relationships, operationalised in research with constructs such as trust, commitment, perceived organizational support (POS), and leader-member exchange (LMX) (Cropanzano & Rupp, 2008; Colquitt et al., 2013). In this view differences in performance levels take on a voluntary element as employees increase or decrease their reciprocity (Colquitt et al., 2013). This view is supported by Greenberg & Scott (1996), who suggest that justice is a means of judging the quality of the social exchange relationship between individuals, which in turn then predicts subsequent positive or negative behaviour, and Skitka et al. (2003) who reviewed justice effects (both procedural and distributive justice) on negative (or deviant) behaviours such as sabotage, and positive behaviours such as organisational citizenship behaviours. Skitka et al. (2003, p. 334) considered both social exchange and affect lenses in their research and closed their arguments with a call to arms for more a more integrated and complete treatment of justice, stating that *'although we have learned much about the psychological dynamics of how people form a justice judgment, and the consequences of a judgment that something is just or unjust, there is a serious need for developing theories and approaches*

*that allow for a better integration of these relatively distinct and important components and consequences of justice reasoning*'. This thesis now therefore sets out to address some of these existing gaps in the research by focusing on both emotional and social exchange relationship components of justice. This provides some important background to the question concerning what aspect of justice has the strongest association with outcomes as a result of bonus pay; emotional or social exchange relationship aspects.

The alternative research lens for viewing justice perceptions is that of emotion. Justice perceptions come with an emotional component as well as a social exchange relationship component (Brief & Weiss, 2002). Weiss, Suckow, and Cropanzano's (1999) investigation of justice and emotion (in this case using a range of distinct emotions) revealed main and interactive effects of justice and outcome favourability on the four emotional states of happiness, pride, anger, and guilt. To explain the effects of justice on emotion, the authors drew on appraisal theories such as Affective Events Theory (Weiss & Cropanzano, 1996). This theory of affect argues that events trigger distinct appraisal processes giving rise to specific emotions. Even a subconscious level of awareness and processing is sufficient to bring a stimulus into the emotional process, and this does not necessarily encompass complete cognitive appraisal (Brief & Weiss, 2002; Garcia-Prieto, Bellard, & Schneider, 2003). Consistent with affective events theory, an individual therefore has the potential to feel organisational justice before they fully process it cognitively, and this emotional process can determine behaviour. While this implies that reactions to affective events may be subconscious, the majority of research into the area of affective events theory uses reflection techniques to investigate salient events in the workplace, assuming that the participant is fully conscious of their own emotional states and resulting behaviour (e.g. Basch & Fisher, 2000; Boudens, 2005). These techniques would assume that participants are fully conscious of their own states post-event and have sufficient recall to accurately categorise them. While this may introduce a limitation into the research as it may not always be the case that emotions are easily able to be recalled, the alternative involves measurement techniques such as functional magnetic resonance imaging (fMRI) to assess emotion through neural activation (Kassam et al., 2013). These techniques are often impractical in a workplace setting.

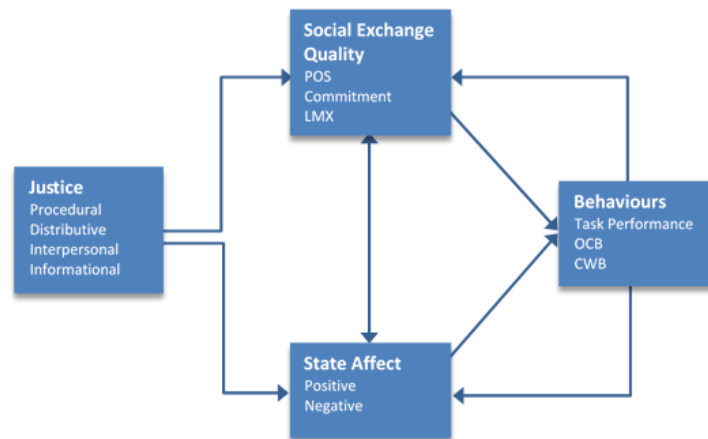


Figure 2. Conceptual model of suggested integration of justice, social exchange, and affect. CWB counterproductive work behaviour; LMX leader–member exchange; OCB organizational citizenship behaviour; POS perceived organizational support. Adapted from Colquitt et al. (2013).

The proposed relationships between these two distinct lenses, as conceptualised by Colquitt et al. (2013), are shown in Figure 2. Researchers have begun to devote more attention to the affective components of justice, with a meta-analysis by Barsky and Kaplan (2007) producing results consistent with the view that both state- and trait-level affect can influence one's perceptions of justice. State and trait level negative affect are both negatively associated with interpersonal, procedural, and distributive justice perceptions. Conversely, positive state and trait affect are linked to higher ratings of interpersonal, procedural and distributive justice. In this research positive affect describes positive emotions and negative affect describes negative emotions, without being specific about the emotions researched, a limitation in this research as distinct emotions have been shown to lead to different attitudes (Weiss et al., 1999). There has been research into emotion and injustice, with findings suggesting a positive relationship between the level of perceived injustice and the magnitude of the negative emotions felt by employees (Barsky & Kaplan, 2007), perhaps as expected. In later work the authors provide a model which attempts to explain the role of state and trait affect at various stages of justice appraisal (Barsky, Kaplan, & Beal, 2011). They conclude that organisational injustice is generally an affect laden and subjective experience which stems from the interplay of work and non-work experiences as well as through mood and emotions. In trying to indicate the direction of causality in these relationships (i.e. does affect form a precursor to justice perceptions) Lang, Bliese, Lang, and Adler (2011) tested longitudinal cross-lagged effects between organisational justice perceptions and employee negative affect and found that symptoms of negative affect impact subsequent justice

perceptions. Thus, affect can also serve as an antecedent to organisational justice perceptions, perhaps indicating a complex, feedback-laden experience.

### 2.9.2. The evidence for social exchange relationship and affect mechanisms

There is evidence for both social exchange relationship and affective mechanisms mediating justice - outcome relationships in the literature. In a meta-analysis of justice literature considering both of these lenses, Colquitt et al. (2013) show that indicators of social exchange relationship quality mediate the relationships between organisational justice and reciprocate behaviour, including performance. That premise lies at the core of concepts of justice and social exchange (Cropanzano & Rupp, 2008), and is supported by other justice research (e.g., Masterson et al., 2000; Rupp & Cropanzano, 2002). In the Colquitt et al. (2013) meta-analysis, two findings in particular stand out. First, although justice dimensions have an indirect effect on organisational citizenship behaviours (OCB) and task performance through social exchange relationship quality, no such effects were observed for counter-productive work behaviours (CWB). These results support the viewpoint that OCB and CWB are not directly opposing ends of the same continuum (Dalal, 2005). CWB may arise from an altogether different source, not dependant on social exchange relationship quality. The second finding to stand out is that the results revealed direct effects of justice on behaviour that were not mediated by social exchange relationship quality. Three of those direct effects centre on CWB. Procedural, distributive, and informational justice have negative direct linkages with CWB. The research suggests that justice appears to relate to outcomes for reasons more complex than explained by social exchange relationship quality alone. The informational justice – OCB relationship also seems to be explained by some other mechanism. Such results suggest that, even if social exchange theory is the most predictively valid lens for viewing justice reactions, it should not be the only lens (Colquitt et al., 2013).

When this thesis considers the literature using the emotional lens applied to justice, research generally shows that justice is positively related to positive affect, and negatively related to negative affect, but only moderately so in both cases (Barclay & Kiefer, 2014; Colquitt et al., 2013). The strength of relationship is similar for positive and negative affect, indicating that justice makes people feel positive emotion to an equal extent that injustice makes them feel negative emotion, supporting findings in other affect research (e.g. Rupp & Spencer, 2006). The research also found that some justice – behaviour relationships were mediated by affect (e.g. Barclay & Kiefer, 2014; Colquitt et al., 2013). In research considering different scales of justice, Colquitt et al. (2013) found that the relationships between procedural and distributive

justice and task performance were mediated by positive affect. Similarly, the relationships between both procedural and distributive justice and OCBs were mediated by positive affect and negative affect (though to a lesser extent by negative affect). Interestingly, the research also found significant indirect effects of procedural, distributive, and interpersonal justice on CWB through state affect (Colquitt et al., 2013). The structural equation modelling results showing standardised estimates related to both social exchange quality and positive and negative affect are shown in Figure 3 and Figure 4. It may be that the relationship between justice and CWBs is not as cognitively focussed as exchange-based explanations would suggest but is instead explained by more spontaneous affect induced deviance, characterised by the 'action tendencies' or pre-cognitive behaviours proposed by Elfenbein (2007). Where justice is concerned this would suggest that appraisals of injustice will be associated with negative emotional responses (as per previous research), though consistent with affective events theory (Weiss & Cropanzano, 1996) this research would also suggest that appraisals of justice will be associated with positive emotional responses as fair treatment is believed to promote a number of individual goals related to self-regard, belonging and meaning (Cropanzano et al., 2001). Consistent with the meta-analysis of Colquitt et al. (2013) this thesis can therefore hypothesise that:

*H6a-6b: Organisational Justice appraisals as a result of bonus pay are positively related to (a) positive emotions and negatively related to (b) negative emotions.*

Although throughout their analysis Colquitt et al. (2013) treat social exchange relationship and affective lenses of justice as alternative ways to view justice effects, they also note that this is in the main due to methodological limitations in the way current research treats social exchange as a relatively stable construct (with assessment typically conducted using cross-sectional survey data) and emotion as a transient property (with assessment typically conducted using experience-sampling methods). The authors propose that there is potential value in 'integrating exchange-based research on justice with affect-based research on justice, something that unfortunately remains all too rare' (Colquitt et al., 2013, p. 213). This is an important departure point for the remainder of this literature review. The relationships between social exchange relationship, emotion and outcomes are less well understood in terms of the direction and magnitude of interaction as they are rarely researched concurrently. The process of engaging in social exchange can trigger a number of emotions ranging from pride and gratitude to anger and shame (Lawler & Thye, 1999). Viewing the relationship from the other direction, the positive and negative emotions elicited by discrete events may also go on to change perceptions of social exchange relationship quality (Ballinger & Rockman, 2010). Such changes may become long lasting to the degree that the

emotion elicited becomes encoded in memories of the events (Ballinger & Rockman, 2010). Moreover, one's own behaviours may influence social exchange quality and emotion in a feedback mechanism. One's own behaviour can trigger a number of self-focused emotions, including pride and guilt (Lazarus, 1991), as can one's own internal interpretation of the events (Elfenbein, 2007). There are therefore theoretical reasons to expect a complex relationship between social exchange relationship quality and emotion. It would be useful and valuable to the current body of research to investigate these relationships.

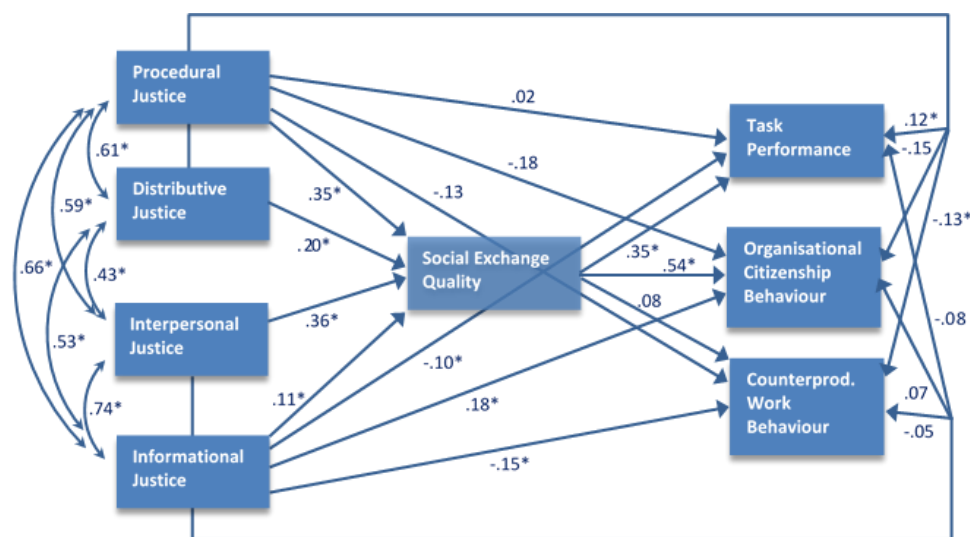


Figure 3. Meta-analysis findings showing strengths of relationships with social exchange quality.

Source: Colquitt et al. (2013).

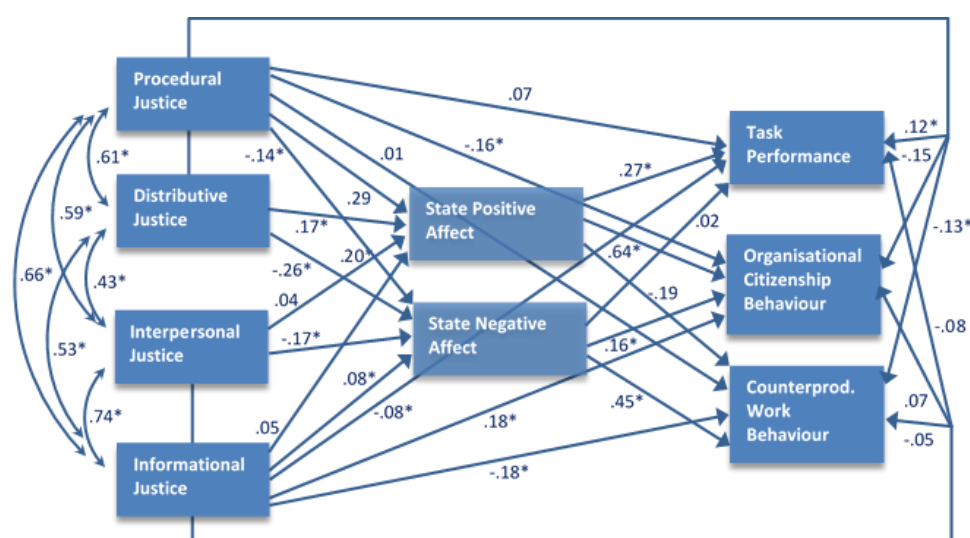


Figure 4. Meta-analysis findings showing strengths of relationships with Affect.

Source: Colquitt et al. (2013).

In order to examine the distinct relationship effects of affect and social exchange detailed in Figure 3 and Figure 4, a new state-like view of social exchange relationships, emotion and justice as co-existing temporal phenomena must therefore be developed to address the design boundaries of treating social exchange as a stable construct, and emotion as transient and diffuse. Social exchange relationship quality perceptions could be built into experience-sampling methodologies, given that past research has revealed daily within person variation in both justice and reciprocate behaviours (Dalal, Lam, Weiss, Welch, & Hulin, 2009; Loi, Yang, & Diefendorff, 2009). Fox et al. (2001) successfully gathered work-based emotion over a 30-day period (with scales assessing enthusiasm, pride, happiness, anger, fear, and sadness) and investigated the effects of these on traditionally stable social exchange based constructs such as trust and commitment. There are a number of other areas in the emotional literature where emotion and constructs thought to be more stable like commitment and trust have been successfully researched using diary studies (e.g. Côté & Morgan, 2002; Shaw, Duffy, Mitra, Lockhart, & Bowler, 2003). There would appear to be no limitation to incorporating social exchange relationship quality into this form of research. There is scope to build on current research by considering extensions to the work of Colquitt et al., (2013) which has to date formed the most complete meta-analysis of justice research. One particular avenue for investigation exists - to understand in more detail the inter-relationships between emotion, social exchange relationship quality, organisational justice and organisational attitudes and outcomes such as turnover intention, which although researched separately in some depth have received limited attention in research as co-occurring dynamics.

Considering organisational justice as an attitude-based construct, the majority of research has focused on cognitive aspects (Weiss, 2002) involving rational appraisal mechanisms (e.g. Locke, 1969; Hulin, 1991). The cognitive and behavioural aspects of job attitudes are relatively well researched, and better developed than their affective dimensions. Spector appears to agree, commenting, 'today most researchers tend to focus attention on cognitive processes' (1997, p. 2). Brief also argued that the cognitive perspective has dominated research into job attitudes. In appraising current measures of attitudes, Brief concluded that, 'Organisational scientists often have been tapping the cognitive dimension while slighting or even completely excluding the affective one' (1998, p. 87). Cognitive models demonstrate validity, but they do not explain the majority of the variance in attitudes (Weiss, 2002). Similarly, dispositional sources of job attitudes, though important, do not fully explain individual attitudes such as differences in levels of job satisfaction or organisational justice perceptions (Ilies & Judge, 2002). It is thought, therefore, that much of the variation in attitudes may be due to variation in emotion (Fisher, 2002). Researchers are beginning to



suggest that considering dynamic affective states in attitude formation may offer a valuable tool to explain both within-person and across-person variation in attitudes to constructs such as organisational justice (Brief & Weiss, 2002). Research from related areas suggests that the effect of emotion at work on job attitudes will be strongest when job attitudes are assessed at the same time as is emotion and weaker when measurement of these concepts is separated. This implies that predictive validities decline as the predictor and criterion become more temporally remote (Hulin, Henry, & Noon, 1990). Memories decay, some rather quickly, and as memories decay the emotions carried with them fade as well (Altmann & Gray, 2002). Collectively, these arguments support the expectation that momentary emotion will impact job attitudes the strongest when the two concepts are assessed contemporaneously.

### 2.9.3. The role of affect in justice appraisals

There is a limited body of research demonstrating the importance of affect (or emotion) in determining job attitudes, however there appears important distinctions in the affect-attitude literature. The most heavily researched of the types of affect studied appears to be trait affect, or the general level of positive or negative emotion considered to be an individual's 'baseline' level (Greenberg et al., 2007). For the purposes of this thesis and to limit the research in scope it will not investigate trait affect, preferring instead to focus on state affect, though this research will measure it and control for it as previous investigations have suggested a significant link between trait affect and emotion (Brief & Weiss, 2002). Moods are also discussed in the justice literature, though these are generally taken to be either positive or negative and are typically treated as longer term emotional states than those described by distinct emotions. Emotions in the literature are sometimes treated as polar states and described as 'positive state affect' or 'negative state affect' by some justice researchers (e.g. Colquitt et al., 2001), though they are also investigated by some researchers as distinct emotions. The research of Colquitt et al. (2001) groups all negative emotions together, and all positive emotions together into broad categories of affect, and so misses differences due to the type or strength of specific emotions which have been uncovered by other researchers (e.g. Mikula et al., 1998). The majority of the research available focuses on trait affectivity and its links to job satisfaction (e.g., Watson & Slack, 1993). Meta-analysis considering broad evidence indicates that both trait positive affect and trait negative affect are related to job attitudes such as job satisfaction (Connolly & Viswesvaran, 2000). The processes by which changes in trait affect results in changes in job attitudes are still not entirely clear, however researchers continue to demonstrate a relationship between trait affect, state affect and job attitudes (Brief, 1998; Brief & Weiss,

2002). The main mechanism thought to underpin this relationship is that people with dispositional trait negative affect are more likely to experience negative emotions, which in turn influences their job attitudes negatively. People with trait positive affect are more likely to experience positive emotions, which positively influences their attitudes towards their work (Judge & Ilies, 2004). Emotions influence a range of cognitive and attitudinal processes including task motivation, social behaviour, analytical reasoning, problem solving, decision-making, and creativity (Isen & Baron, 1991; Forgas, 1992; George & Brief, 1996; Staw & Barsade, 1993; Staw et al., 1994). The research generally indicates that the greater the frequency and strength of emotion the stronger the outcome (both positive or negative respectively).

Research has suggested that the mediation effect described above is only partial, and that other mechanisms may also mediate the trait affectivity – job attitudes relationship. It may be the case that affective traits also influence cognitive interpretations of events or stimuli at work, meaning that one's cognitive assessments of job situations (perhaps both directly and indirectly through emotions) are influenced by level of trait affect. Because trait positive affect is more strongly related to job attitudes than negative affect, trait positive affect may play a stronger cognitive role in evaluations of job attitudes than negative affect. This confirms the need to control for this variable in research. Such an interpretation is consistent with theories and findings in basic attitude research which suggests that individuals in whom positive emotions has been induced engage in different cognitive processes than do those in whom no such state emotions have been induced (Judge & Ilies, 2004). Researchers have suggested that emotion may be a major influence on social cognition (Hinsz et al., 1997) and can have a direct informational role on inferences and conclusions made by individuals (Clore & Parrott, 1991; Schwarz & Clore, 1988). Positive emotions appear to reduce systematic processing of information, such that individuals are more susceptible to heuristic cues (Worth & Mackie, 1987). Moreover, positive emotions might optimistically bias the processing of information (Shaller & Cialdini, 1990), which may also reinforce the maintenance of positive emotions. Emotional states inform us about states of the world that either do or do not require careful monitoring or processing, and so help us to direct attention to where it is most required (Frijda, 1986; Schwarz, 1990). Although the impact of positive emotions on cognitive processing is somewhat established in literature, the link between negative emotions and cognitive processes is less studied, and the results are more ambiguous (Eagley & Chaiken, 1993). Positive affective states signal a benign and unproblematic situation, and individuals in positive affective states perceive the situation as uncomplicated, while negative affective states indicate that a situation is troublesome, characterised by disappointment or threat, which renders it risky to rely on one's default

routines (Bless et al., 1996). This makes the study of emotion particularly suited to situations such as bonus pay as they offer an organisational event which is carefully planned in terms of the timing and type of announcement, and both important and salient enough to the recipient to generate an emotional response (Mikula et al., 1998).

The relationship between emotions and social exchange relationship quality has also received attention from researchers. This represents a distinct move away from the traditional focus on structural determinants of exchange outcomes, although it returns to the work of the early exchange theorists (e.g. Adams, 1965) who suggest emotions play a part in fairness judgements in exchange relationships. Much of the empirical work on social exchange relationships investigates how the social structure influences the outcomes of exchange, however a newer thread of research has begun to explore the emotional consequences of social exchange processes and the role that certain emotions play in the structuring of exchange relationships. Lawler, Thye, and Yoon (2000) have developed Relational Cohesion Theory to explain how emotional responses to exchange relationships influence exchange outcomes. Molm et al. (2000) have likewise explored the role of emotions in exchange, but focus more on emotion as an outcome of exchange rather than emotion as a factor influencing exchange outcomes. There is evidence that the process of forming social exchange relationships is associated with distinct positive and negative emotions (e.g., interest, fun, excitement, and comfort, frustration, annoyance, anxiety, and fear) (Tse & Dasborough, 2008). In complimentary research, investigators have suggested that the emotions generated by discrete affective events may go on to change perceptions of social exchange relationship quality moving forward (Ballinger & Rockman, 2010), supporting the suggestion earlier in this thesis of a potentially complex and interactional relationship between social exchange relationship quality and emotion which is worthy of further investigation.

Although there are researchers who have questioned the necessity of investigating emotional mediation for cognitive and behavioural effects of injustice, largely as behavioural effects hold more value for researchers (e.g. Sprecher, 1992; Tajfel, 1982), more recent research has suggested that perceived injustice is an important dimension in emotion-antecedent appraisal, and suggests a central motivational role for emotions as a necessary condition for action to restore equity (Mikula et al., 1998). This 'distress mediation hypothesis' (Mikula et al., 1998, p. 770) is supported by research suggesting that experiencing injustice is accompanied by symptoms of physiological arousal including increased skin conductance (Markovsky, 1988) and higher blood pressure (Hassebrauck, 1991). Justice researchers have noted that injustice not only elicits negative emotional

reactions, but rather that 'such situations can produce widely different emotions' (Mikula et al., 1998, p. 781). Despite this assertion the research into emotion (or affect) and justice is sparse, though throughout the justice literature there have repeatedly been calls to examine distinct emotional states related to injustice (e.g. Cook & Hegtvedt, 1983; Greenberg et al., 2007). Some authors (notably Cropanzano & Ambrose, 2015; Weiss et al., 1999) have suggested that justice in certain situations can be thought of as an affective event in itself, though we will see in a review of the affective events literature later in this thesis that there are some problems with this suggestion. Affective events theory posits that proximal events elicit justice appraisals, rather than the appraisal itself representing an affective event. We will consider affective events theory in more detail in later sections, and suggest hypotheses that bonus pay can be treated as an affective event.

The research which exists investigating justice and emotion typically uses adjective checklists to self-report levels of contentment (positive affect) versus distress (negative affect) (Colquitt et al., 2013). Justice theories frequently discuss anger and guilt as the most likely emotional responses to perceptions of justice, depending on whether the injustice is advantageous or disadvantageous to the perceiver (Adams, 1965). The fact that these two emotions are identified specifically by Adams (1965) as results of justice appraisals is in itself problematic. Although anger and guilt are both forms of negative affect, they are responsible for very different work behaviours. Because anger is considered to be an "other-focused emotion," as opposed to guilt which is a "self-focused" emotion, anger is more likely to be linked to employee retaliation (Barclay, Skarlicki, & Pugh, 2005; Lee & Allen, 2002), whereas guilt is more likely to result in reconciliation attempts by the employee (Tangney, 1995). Considering these emotions as similar affective responses can therefore lead to inaccuracies in understanding the behavioural outcomes related to these specific emotions. Similarly research considering the mediating effects of two negative emotions, anger and sadness, found that anger mediates the relationship between fairness and aggressive behaviour whereas sadness does not (Chow et al., 2008) though this research is limited in the context of this thesis as it is not workplace based and does not consider a broader range of emotions.

There has been increasing attention on the nature of the emotions elicited in justice appraisals in recent years, with literature suggesting that injustice can elicit a range of qualitatively different emotions. Researchers have found that various emotions are elicited in unjust situations, described as anger, disgust, sadness, fear, guilt, rage, indignation, surprise, helplessness, envy and shame (Mikula et al., 1998). By understanding the specific emotional responses as a result of justice appraisals this thesis can better understand

'typical' reactions to justice, and therefore be in a better position to predict behavioural outcomes. Mikula et al. (1998, p. 770) also explored the frequency of emotional responses from participants, noting six clear categories of response described as (in order of decreasing frequency) 'anger, rage and indignation; disappointment, feeling aggrieved; surprise; physical symptoms of arousal and stress; helplessness, depression; and envy'. The predominance of negative emotional responses seems to support previous research which suggests that negative emotions predominate in justice situations, seemingly supporting the position that for every winner in unjust situations, there are many losers (Lipkus, 1992).

Considering emotion and justice research more broadly suggests that anger is the most common emotion to be elicited in justice and fairness research. In workplace research (though considering a novel approach where employees are asked to identify the cause of anger responses in the workplace), the majority of those studied identified 'unjust treatment' as the primary source of anger (Fitness, 2000). Justice is even embedded in the definition of anger by some researchers, with Gibson and Callister (2010) offering four points of distinction with which to separate anger from other negative emotions. First, the authors point out that anger is a discrete emotion with universally recognisable expressions with specific types of physiological reactions (Gibson & Callister, 2010). Second, anger is a social emotion that is often generated in response to the actions of others and, as such, it is often directed at others (Averill, 2012; Gibson & Callister, 2010). Third, anger serves a social function of signalling to the individual that a justice violation has occurred, and in this way, anger acts as a transaction between the individual and his or her environment. And fourth, anger episodes usually begin with work-related events, which result in what Gibson and Callister (2010) identify as the three primary causes of anger; perceptions of fairness and justice, goal interference, and interpersonal conflict. These four distinctions lend further support to the research of this thesis as this research considers both specific work-related events (in this case bonus pay) and also perceptions of justice. There exists specific research on the connection between anger and justice perceptions identifying justice as the most common cause for workplace anger, often prompting counterproductive behaviour toward the offending parties (Barclay & Kiefer, 2019; Mikula et al., 1998; Clayton, 1992; Schweitzer & Gibson, 2008; Averill, 2012; Weiss et al., 1999). For this thesis the consistent findings in research related to justice which suggest that anger is the most frequent emotion elicited as a result of justice appraisals lead to the hypothesis that:

*H7: Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay.*

In terms of the extant research regarding the discreet emotions elicited when a bonus is issued there is limited evidence. This is perhaps surprising given the suggestion by some researchers that ‘treatment or events considered as unjust are amongst the most powerful elicitors of intense emotions’ (Mikula et al., 1998, p. 780). There have been some moves to identify the discreet emotions present in situations where incentives are used, for example in field experiments by Falk and Ichino (2006) the authors found that workers compare their performance related incentives with those of referents and feel emotions like pride or frustration in cases of relative success or failure respectively. Economics researchers considering the influence of emotions on productivity have suggested that joy or pride are felt when successful in obtaining bonus payments, and frustration or anger when unsuccessful in beating the standard required for bonuses (Kräkel, 2008), though these are assumptions rather than outputs of emotional research obtained during bonus pay events. There are some examples of research considering the relationship between affect and bonus pay, though these are largely limited to laboratory investigations. In one piece of research Carver (2006) used a methodology where participants were led to believe that by performing well at a task they could obtain a bonus, but then failed to do so, eliciting emotions described as anger, sadness and frustration. In terms of financial incentives acting as an emotion-inducing event, there appears more research into general pay and pay raises than the issuance of bonuses consistent with other types pay for performance research.

As justice is proposed to have an affective component, it is interesting to note in the work of both Falk and Ichino (2006) described above and Greenberg et al. (2007) that the authors suggest a link between affect and social comparison processes. Certain workplace emotions such as envy result in a set of attitudes and behaviours resulting from ‘an employee’s loss of self-esteem in response to a reference others obtainment of outcomes one strongly desires’ (Vecchio, 2000, p. 162). Social comparison therefore becomes an additional mechanism to consider in emotion and justice research. Greenberg et al. (2007) continue to note that ‘further theoretical refinement and empirical research in the field would be a wise investment’ with respect to social comparisons and affect. The authors suggest that affective events theory (AET) may hold promise as a lens for viewing emotional reactions to social comparison, echoing Cropanzano and Ambrose (2015) and Weiss et al. (1999). In particular, the authors note that ‘affective reactions to social comparisons serve as exemplars of mechanisms underlying AET given that events (upwards or downwards social comparisons) generate emotional reactions that then have attitudinal and behavioural consequences’ (Greenberg et al., 2007, p. 27). Due to these convergent views on the important role emotions play in justice appraisals, this thesis may benefit from a review of the literature investigating the association between emotions and organisational outcomes.

#### 2.9.4. The relationship between affect and organisational outcomes

As well as trait affect, there is now a realisation that emotion contributes significantly to our work attitudes and these relationships are often stronger than trait affect relationships with attitudes and outcomes. Fisher (2002) found that emotion was more strongly correlated with job satisfaction than was trait affect, meaning that short term emotions tend to have a stronger relationship than longer-term dispositional feelings with attitude formation. The relationship between emotion and job attitudes is difficult to study as it requires analysis of job attitudes using dynamic research designs, as emotions are generally short lived, transitory states. Weiss, Nicholas, and Daus (1999) used an experience sampling methodology in which managers' 'mood' was sampled four times a day to investigate the relationship of affective experiences with job satisfaction. The authors found that 'mood' at work and job cognitions contribute to job attitudes additively. In the research of Weiss, Nicholas et al. (1999) the operationalisation of mood suggests some confusion in the definitions of emotion, affect and mood, as the measurement instrument used for 'mood' (the current mood report or CMR; Larsen & Kasimatis, 1990, p. 7) asks for how participants are 'feeling right now' and offers a list including 'happy', 'sad' and 'distressed' which are also considered emotions by some researchers (e.g. Miller et al., 1996). The research by Weiss, Nicholas, et al. (1999) was undertaken in a single organisation with voluntary participation, and so generalisability may be limited.

Ilies and Judge (2002), in a study which measured job attitudes and mood using a time-sampled technique found that mood and job attitudes were related both within and across individuals. The authors also found that within-individual variance comprised 36% of the total variance in job satisfaction, meaning that mood at work accounted for more than a third of the variance overall, a substantial amount. This is variance that would be missed with the typical between-subjects design and highlights the importance of within-subject research designs when investigating the relationship between affect and organisational outcomes. The research of Ilies and Judge (2002) was conducted across three separate organisations and so offers some generalisability, but the lack of experience sampling tools capable of assessing co-occurring emotions lead the authors to use the PANAS (Watson et al., 1998), an instrument designed for assessing trait affectivity rather than mood or emotion (and so offering questionable validity in this approach). The findings that mood influences attitudes do not indicate that the magnitudes of mood and cognitive effects on attitudes are similar. There is contrary evidence for this in literature with some researchers suggesting that the relationship between affect and attitudes is stronger than that of cognitive beliefs and attitudes (e.g. Weiss, 2002), and some finding otherwise (e.g. Colquitt et al., 2013). This

relationship appears to be dependent on the workplace event which has elicited the emotion (Basch & Fisher, 2000), the strength and type of emotion (Weiss, 2002), the type of attitude researched (Colquitt et al., 2013) and the organisational context under research (Ilies & Judge, 2002). In order to effectively set the scope of our research methods we therefore must look to include these variables in our measures, yet also constrain some elements such as the type of attitude to research and the organisational context to better understand these paths.

Situational dynamic research into emotion and attitudes is becoming more popular (Fisher, 2002; Ilies & Judge, 2002; Weiss, Nicholas, et al., 1999). Traditional research considering emotion was cross-sectional, where a single assessment of affect is related to a similar 'slice' of employee attitudes. This approach treats affect and attitudes as reasonably stable constructs, yet research shows that both emotion and attitudes change over time exhibiting substantial short-term variability (Ilies & Judge, 2002; Weiss, Nicholas et al., 1999). This correspondence can only be realised and investigated when affect and attitudes are analysed dynamically so that their temporal co-variation can be considered. Grandey et al. (2002) used a diary methodology to research emotion and underlying trait affect on workplace behaviours. Trait positive affect was related to overall positive emotion experienced over the research period (in this case two weeks), although this relationship did not reach traditional levels of significance. Dispositional trait negative affect was a significant predictor of overall negative emotion at work, with some negative emotions such as anxiety and sadness being more strongly related than others (e.g. anger). This confirms the need to control for trait affect in potential research designs. Having increasing incidences of negative emotion over the two-week period significantly predicted intentions to leave the job, which creates a link in the current research with our chosen outcome variable of turnover intention. The authors of the research suggest that looking at just positive versus negative emotions may be misleading, and that individual emotions should be researched to understand the breadth of attitudinal reactions to the range of emotions elicited. Negative emotions such as anger, sadness, and anxiety had different patterns and strengths of relationships with turnover intentions (Grandey et al., 2002). This study is important as it not only suggests that dispositional trait affect is significantly related to shorter-term emotion, but also suggests that distinct emotions hold different relationships with turnover intention.

As demonstrated in preceding sections, there are some authors (e.g. Mikula et al., 1998; Greenberg et al., 2007) who have already suggested investigating emotion in justice relationships as a fruitful path for future research. Others have suggested potential frameworks for viewing justice as an emotional event, suggesting theories such as affective



events theory (AET) offer a valuable framework for considering justice appraisals situationally (Weiss et al., 1999). It will perhaps add value at this stage of this thesis to consider AET in more detail. Affective Events Theory (AET) proposes that organisational events are proximal causes of affective reactions, stating that *'things happen to people in work settings and people often react emotionally to these events. These affective experiences have direct influences on behaviours and attitudes'* (Weiss & Cropanzano, 1996, p. 11). Research exists suggesting that justice is in itself an affective event (Cropanzano & Ambrose, 2015) and that reactions to episodes of social comparison can be affective events (Greenberg et al., 2007), however this research appears to neglect the proximal environmental causes of these reactions. Episodes such as bonus pay offer a discrete organisational event or stimulus and so may lend themselves well to affective events theory as a framework for investigation. In previous research affective events research has been predicated on changes in the environment such as sensory stimuli (e.g. noise, aromas; Isen & Baron, 1991), characteristics of the work environment (e.g. acts of customers, supervisor interactions; Basch & Fisher, 2000) pay system reform (e.g. Tenhiala & Lount, 2013) and episodes of conflict or violation of norms (e.g. Boudens, 2005) as discernible events. It is relevant to our research if we view the payment of a bonus as an affective event which elicits an attitudinal effect such as a justice appraisal which in turn leads to an outcome, and additionally exerts a direct effect on that outcome (for example discretionary performance, workplace behaviours or turnover intention). This thesis will therefore consider affective events theory and its applicability in justice and pay situations in more detail in the following section. From this definition, however, and considering the evidence this thesis can suggest a further hypothesis:

*H8a and 8b: Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship on turnover intention and (b) a unique effect above and beyond that of social exchange relationship quality on turnover intention.*

Bonus pay is a discernible organisational event and therefore reactions to this event should be testable. Pay has been included in previous research as an effective event (e.g. Tenhiala & Lount, 2013), therefore there is no theoretical reasons why this research would expect bonus pay to not elicit similar direct emotional effects on turnover intention. Studies have been conducted to test different parts of the proposed AET model (e.g., Bash & Fisher, 2000; Grandey et al., 2002; Saavedra & Kwun, 2000), however very few studies have been conducted to test the model fully (e.g., Fisher, 2002). In Fisher's study, although the event-emotion-behaviour model was tested, a substantial taxonomy of work events was not

included among the study measures. Instead, job characteristics such as autonomy, task identity, skill variety and task significance were examined in terms of their relation to employee affective experiences and work attitudes and behaviours. In those studies that effectively assessed work events more broadly work attitudes and behaviours are typically excluded, and event-emotion relationships examined instead (e.g., Bash & Fisher, 2000). This thesis will now consider in more detail how affective events theory offers us a useful framework for viewing stimulus, attitude and behaviour pathways in psychology, and look at how justice can be integrated into an appropriate research methodology.

#### 2.9.5. Affective Events Theory as a Framework for Justice

A different means of approaching affect-behaviour relations is to accept the short term, state-like nature of affect and examine the association between varying momentary emotions and attitude or behaviour variability over time (Fleeson, 2001). This approach requires the adoption of the view that attitudes and behaviour (if we can characterise performance and other outcomes as behaviour in themselves; Gilbert, 1998) as with emotion, can be identified as a discreet 'episode' which is time-based (Beal, Weiss, Barros, & Macdermid, 2005). In this sense behaviour episodes refer to natural units of activity organised around goals, personal strivings, or desired states (Barker, 1963; Craik, 2000). Specifically, Barker (1963, p. 10) claimed that performance episodes 'have as their common feature, behaviour that is directed toward a single end state or goal'. Behaviour episodes are complementary to this discussion linking emotion to attitudes such as justice and satisfaction and outcomes such as turnover intention (if considered as a proxy outcome) as they provide a within-person structure to complement the transitory nature of emotion. They help this thesis to consider workplace behaviour in the context of Affective Events Theory (AET, Weiss & Cropanzano, 1996) which proposes that organisational events are proximal causes of affective reactions. These affective reactions are then associated with a host of employee attitudes and organisational behaviours.

The possibility of meaningfully distinct affective experiences at work has been generally ignored by researchers (Weiss & Cropanzano, 1996; Burke et al., 1989). These moment-to-moment or one-off events at work elicit different affective reactions, which in turn influence both attitudes and behaviours differentially (Weiss & Cropanzano, 1996). Watson (2000) discusses that negative events which induce stress are more likely to influence negative emotions whereas positive events such as social interaction are more likely to impact positive emotions. He noted, '*negative mood increases in response to various types of unpleasant events and aversive stimuli, whereas positive mood states are much more*

*responsive to pleasant events'* (Watson, 2000, p. 63). Due to the clear research describing affective components of justice, and the research suggesting positive events lead to positive emotions and negative events negative emotions, this is further support for hypotheses 6a and 6b as described earlier in this thesis. Although workplace events and reactions are difficult to measure due to their transitory nature, researchers have provided support for the hypothesised relationship predicted by AET between specific events, momentary affect at work and attitudes such as job satisfaction, organisational commitment and intention to quit (Fisher, 1998; Boudens, 2005; Tenhiala & Lount, 2013). In attempting to understand the impact of pay (and bonus pay in particular) on employee attitude and behaviour, affective events theory may offer a valuable lens for viewing the issue of bonus pay as an affective event, eliciting emotions which then have an influence of subsequent attitudes, decisions and outcomes. The research into bonus pay as a distinct affective event is scarce, perhaps surprising given the prevalence of bonus pay in the broader public agenda and its increasing use as a form of pay. Although some researchers have investigated factors which seek to explain how employees react to pay in both distribution and process, they have largely ignored how an employee's emotional reaction towards one's pay impacts outcomes (Salimaki & Lount, 2008; Tenhiälä & Lount, 2013).

Affective event theory has in the past included organisational rewards or punishments (Brief & Weiss, 2002), but this has typically involved asking participants to comment on broad aspects of pay and reward, rather than treating specific instances as emotion-inducing events (which subsequently influence judgements, attitudes and behaviours). Nevertheless, a view of pay as an affective event is gaining traction in some research areas. Recent research by Mitra, Tenhiala, and Shaw (2016) considered pay system reform as an affective event and described certain conditions for affective events. The authors suggest that for pay to be considered an affective event employees must assign psychological meaning to the sum or circumstances surrounding the pay event. The treatment of pay as an affective event by Mitra et al. (2016) offers a potential framework to view bonus pay as an organisational event, and the proposed role of justice in pay and performance relationships offers a construct with which to test mediating relationships suggested in previous literature. This framework also provides a useful means for testing the interactions of affective and social exchange relationship effects of justice (pointed out as a fruitful avenue of investigation in previous research; Colquitt et al., 2013; Greenberg et al., 2007). This thesis has considered the literature viewing justice as affective in some detail in previous sections and has highlighted research suggesting a link between justice, affect and turnover intention. It will add value at this stage to address the alternative lens used by researchers to view justice, that of social exchange relationship quality. A review of this literature will help the reader to

understand not only the types of social exchange relationships considered by previous authors, but also some of the determinants of social exchange relationships and the relationships found in previous research related to pay, justice and outcomes.

#### 2.9.6. Justice and Social Exchange

As explained earlier in this section, researchers have suggested that organisations exist as independent social actors capable of justice or injustice (Trevino & Bies, 1997). In this view the 'organisation' is loosely defined and considered a single entity. This has recently been expanded, with researchers now suggesting a range of potential organisational actors against which social exchange relationship quality judgements are made, with the potential that these judgements co-exist. The target similarity model developed by Lavelle, Rupp, and Brockner (2007) suggests that perceptions of justice related to a given target will best predict social exchange quality with that target, which will in turn best predict reciprocation toward that target. This 'target' as per Lavelle et al. (2007) is consistent with social comparison theories outlined earlier in this thesis. In order to further understand social exchange relationships in more detail, it may be worth at this stage considering the sources and types of social exchange relationships in the literature and the evidence for the importance of the construct. Overall research suggests that employees face two main sources of injustice in social exchange relationships in the workplace, the immediate supervisor or manager (as this is a source of influence over important outcomes such as pay raises or promotional opportunities), and the organisation as a whole. Research has in particular found justice perceptions influence both supervisor- and organisation-related outcomes via the mediating variables of leader-member exchange and perceived organisation support (Masterson et al., 2000). Leader member exchange (LMX) is defined as the quality of the relationship between the supervisor and his or her employee (e.g. Graen & Scandura, 1987). Perceived Organisational Support (POS) reflects the quality of the relationship between the employee and the broader organisation by measuring the extent to which employees believe that the organisation values their contributions and cares about their welfare (Eisenberger, Huntington, Hutchison, & Sowa, 1986).

Both LMX and POS develop through employees' assessments of their treatment by either supervisors or the organisation, and employees subsequently use their judgments of social exchange relationship to estimate their levels of fairness (Masterson et al., 2000). The constructs describing social exchange relationships have grown in recent years, with a range of variables now proposing to describe social exchange relationship quality in the literature, including satisfaction (Weiss, 2002), trust (Aryee et al., 2002) and commitment (Van

Knippenberg & Sleebos, 2006). Other researchers, however, argue that these constructs do not accurately represent social exchange relationships. This thesis will return to Blau's (1964, p. 88) original concept, which describes social exchange relationships as 'an exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two persons'. There will be a review of specific measures for assessing social exchange relationship quality in later chapters, but it is important to note that some credible academics (e.g. Colquitt et al., 2014) suggest that many measures of social exchange relationship quality (including measures of LMX, POS and trust) possess content validity problems when used to operationalise social exchange relationships, either because they are one-sided statements which don't identify a relationship, or because they seek to assess antecedents or consequences of social exchange relationships rather than the relationship itself (Colquitt et al., 2014).

The evidence in the literature for associations between social exchange relationship quality and organisational attitudes and outcomes is broad. In general this is a more strongly researched relationship than emotion and organisational attitudes and outcomes. Research links between social exchange relationship quality and justice have led to some authors to suggest that 'the reason fairness perceptions appear to influence work-related attitudes and behaviours lies in the quality of employees social exchange relationships' (Masterson, Lewis, Goldman, & Taylor, 2000, p. 8). Individuals often think of their employing organisations as independent social actors capable of justice or injustice (Trevino & Bies, 1997). It has been proposed that employees perceive fairness as a contribution which enhances the quality of their relationship in the workplace. This contribution in turn allows employees to reciprocate in ways that preserve the social exchange relationship, with improved performance or other citizenship behaviours (Wayne et al., 2002). Greenberg and Scott (1996) suggest in fact that justice is a means of judging the quality of the social exchange relationship between individuals, which in turn then predicts subsequent positive or negative behaviour. A series of researchers (e.g., Konovsky & Pugh, 1994; Konovsky, Villanueva, & O'Leary, 2001; Lee, 1995; Moorman, 1991) have suggested that organisational justice facilitates the formation of social exchange relationships, with an increase in justice perceptions leading to an increase in perceptions of the quality of social exchange relationships. As a consequence of these relationships individuals are more or less likely to increase their job performance, engage in organisational citizenship behaviours (OCB) or leave the organisation, with a decrease in the quality of social exchange leading to poorer performance or increased turnover, and an increase in the perception of social exchange leading to increased performance, organisational citizenship behaviour or a reduction in turnover intention (Niehoff & Moorman, 1993; Wayne et al., 2002, Colquitt et al., 2001). The evidence shows that as social exchange

relationship quality increases, so do outcomes such as performance (both task and cognitive performance) and organisational citizenship behaviours (Viswesvaran & Ones, 2002; Colquitt et al., 2013). The literature also tends to demonstrate that as social exchange relationship quality increases, the incidences and seriousness of counterproductive work behaviours decreases (Colquitt et al., 2013) as do intentions to leave the organisation (Van Knippenberg & Sleebos, 2006). These consistent findings in the literature related to organisational justice, social exchange relationship quality and outcomes such as turnover which suggest a further hypothesis:

*H9: Organisational justice is positively related to social exchange relationship quality, which in turn is negatively related to turnover intention.*

As the meta-analysis by Colquitt et al. (2013) discusses, social exchange is typically the dominant lens for explaining justice effects on performance (Colquitt, 2008), yet this dominance to some extent fails to consider the evidence into the predictive effects of social exchange relationships versus emotions on organisational outcomes. The relationships between social exchange quality (measured by POS, LMX, trust and commitment) and task performance have been shown by some researchers to be stronger than the relationships between task performance and both positive and negative state affect. The relationships between state affect and both organisational citizenship behaviours and counterproductive work behaviours, however, have been shown to be stronger than those between social exchange relationship quality and these behaviours (Colquitt et al., 2013). Interestingly, where justice is concerned, the relationships between certain scales of justice (e.g. distributive justice) and negative state affect are also stronger than the relationships between distributive justice and social exchange relationship quality (Colquitt et al., 2013), perhaps indicating that some elements of justice and some organisational outcomes are predicted more by social exchange relationship quality than by state affect, and some predicted more by state affect than social exchange quality.

Forgas and George (2001) have demonstrated that emotions can influence both judgement and relationships involving social exchange and that positive emotional states may increase desirable employee attitudes. Colquitt et al. (2013) describe a relationship between justice, social exchange relationship quality and affect in Figure 2 with complex relationships between the three constructs, with social exchange mediating affect-outcome relationships, and affect mediating social exchange-outcome relationships. Similarly, Colquitt et al. (2013) suggest that the relationship between justice and social exchange relationship quality is at least partially mediated by affect, and the relationship between justice and affect is at least

partially mediated by social exchange relationship quality, though this model is yet to be tested empirically by the authors. Emotions also play a role in social exchange relationships, a factor which has not gone unnoticed in literature, with Lawler and Thye (1999, p. 218) stating '*we believe that emotional dynamics have a more central role in social exchange than typically assumed*'. Emotions are part of and can alter the context of exchange as well as be caused and produced by the exchange process and the associated outcomes (Lawler & Thye, 1999). There is a growing body of research which indicates that emotions do in fact shape social judgments (e.g. Bower, 1991; Isen, 1987). Considering how these findings relate to this research this thesis can therefore suggest an additional hypothesis:

*H10: The relationship between justice and both social exchange relationship quality and turnover intention is at least partially mediated by positive or negative state affect.*

This literature review has provided an overview of the existing research related to pay (and bonus pay specifically), organisational justice, social comparison, emotion, social exchange relationship quality and organisational outcomes. Throughout the review the thesis has identified limitations related to specific theories and research investigations. In order to draw these limitations together a summary will now be provided. This summary is designed not only to highlight areas of weakness in the current body of research, but also to inform the research designs in the investigations designed to address the hypotheses developed during this literature review.

## 2.10. Limitations in the Current Literature

There are a number of limitations identified in the research considering workplace events, justice and turnover intention. The construct of organisation justice is well established, with measures of justice showing strong validity and reliability under proper research conditions. It has been shown to mediate the relationship between pay and organisational outcomes in previous research and is suggested to be an effective measure of fairness in an organisational setting. As this thesis is concerned with fairness and the mediating effects of justice on the relationship between bonus pay and turnover intention it is a valuable construct as it has demonstrated validity when used alongside pay (though predominantly pay in the form of salary) and turnover intention in previous research. There are, however, flaws in the existing literature which should be taken into account, including limitations concerning the events researched which lead to justice appraisals and the methods and

techniques used in existing research. This thesis will now discuss these limitations in more detail.

The research considering different types and class of event in current literature is generally limited and is grouped into several (though not necessarily mutually exclusive) categories (Brief & Weiss, 2002). Few of these events have been researched through the specific lens of organisational justice, though there exists a narrow range. These include events such as achievement, recognition, giving of more responsibility, and advancement (Herzberg, Mausner, & Snyderman, 1959), supervision, policy and process conflict (Hart, Wearing, & Headley, 1994) and leaders, workgroup characteristics and organisational rewards or punishments (Brief & Weiss, 2002). A consolidation of the literature into workplace events reveals a substantial range of potential events to include in research (as will be discussed in the method section for the experience sampling investigation in Chapter 6) though perhaps due to the potential volume of workplace events these are typically limited in research to a maximum of eight events which means that more salient workplace events which lead to justice appraisals may be missed (Basch & Fisher, 2000). Different situations or events are associated with referent selection, satisfaction and justice appraisals (Scholl et al., 1987; Buunk & Gibbons, 2007) therefore considering justice as an attitude in absence of the event which is associated with the appraisal can be seen as problematic (to say that a situation or event is unfair refers to that specific situation or event). Emotion researchers are quite clear that different types of events are also associated with different emotions (Izard, 1991). The events that elicit the emotion of anger are quite different from those that cause joy, and fear is associated with different events than pride or envy. It may therefore be that for a range of identified events which occur in the workplace there are different referent choices, emotional responses and judgement processes, leaving the scope of research potentially vast. In the specific situation of justice appraisals made as a result of a bonus (as a workplace event) this literature review has demonstrated a lack of research in this area, and the research which does exist tends to use laboratory studies or is limited to the use of students as participants. Where bonus pay as a situation is researched in workplace environments it tends to be limited to single workplaces (e.g. Ockenfels et al., 2010) or limited to particular organisational groups (Tremblay et al., 2000) which limits the generalisability of the findings.

Although the four elements of justice (distributional, procedural, interpersonal and informational) have been covered in some detail in existing research there are often inconsistencies in the constructs used to describe these scales, with procedural justice often including items related to communication and treatment which are better suited to other justice scales (Folger & Konovsky, 1989; McFarlin & Sweeney, 1992). Research considering



reactions to pay fairness is often laboratory-based (e.g. Gneezy, 2004), classroom-based (e.g. Pokorny, 2008), conducted using simulated environments (e.g. Guth et al., 1982), or focused on specific events (e.g. Fisher, 1998). These pieces of research are not only limited in their generalizability to workplace events, but also limited in their generalisability to employees as they typically use students as participants, and sums (i.e. pay amounts) which may not represent a realistic amount to an employee. This may be important given the non-linearity in the reactions to pay when differential amounts are concerned demonstrating that pay amount is also associated with attitudes and outcomes (Gneezy, 2004). There is also a failure within the justice literature to treat justice as a momentary and intense phenomenon. The definition of justice as having an emotional component would suggest this is the case, yet the majority of justice research treats it as a relatively stable construct and assesses it through cross-sectional methods (e.g. Tremblay et al., 2000). Although there exists research into the role of workplace events as justice-triggering work factors, the research is often methodologically limited, and the research has 'contributed little to understanding the production of moods and emotions at work', (Brief & Weiss, 2002, p. 287). As the research tends to neglect these emotional lenses of justice, it also fails to properly investigate the determinants of justice. Justice theories point to both social exchange relationship quality and affective lenses as components which have an association with attitudes and outcomes, yet research has yet to consider these lenses as co-existing phenomena. Justice researchers have differences of opinion as to whether it is emotional or social exchange factors which influence outcomes to the greatest extent, and these relationships remain to be tested for the same event (as identified by both Colquitt et al., 2013 and Greenberg et al., 2007).

Much of the social exchange relationship research is workplace-based, with empirical studies typically operationalised by constructs which seek to appraise the quality of social exchange related to both individuals at work (e.g. leadership, managers), and the organisation (e.g. levels of organisational support). This research includes mediating variables such as leader-member exchange, commitment, trust, perceived organisational support and psychological contract fulfilment (Colquitt et al., 2014). Many of these variables possess content validity problems when used to operationalise social exchange relationships, either because they are one-sided statements and don't necessarily identify a relationship, or because they seek to assess antecedents or consequences of social exchange relationships rather than the relationship itself (Colquitt et al., 2014). Research into social exchange relationship quality has largely sought to investigate the 'event, social exchange relationship quality, reciprocal behaviour' causal string, using cross-sectional self-report scales (e.g. Masterson et al., 2000; Tekleab et al., 2005). This policy-capturing

method brings a number of research limitations. Firstly, the cross-sectional data precludes any inference of causality. Secondly is the limitation in considering social exchange as a stable construct when applied to employment relationship. In a stable employment relationship characterised by high levels of fairness and trust, researchers concede that a social exchange model may predominate (e.g. Aryee et al., 2002). However, in an employment context characterized by low levels of fairness and trust, the employment relationship may undergo a qualitative change and an economic exchange relationship may take primacy (Aryee et al., 2002). The nature of using cross sectional research therefore assumes a relationship characterised by high levels of fairness and trust, which may not be the case for many employees. Social exchange-based research largely treats social exchange as a reasonably stable construct over longer timescales. In fact some definitions of social exchange have the long-term focus of the construct embedded in them, for example drawing on Blau's (1964) descriptions, Colquitt et al. (2014, p. 604) used the following definition for social exchange relationships: '*A more invested relationship between an employee and his/her [supervisor/organisation] that is based on, and motivated by, obligatory exchanges of unspecified favours and benefits, over an open-ended and long-term time frame*'. These two methodological starting points have historically led to different techniques in assessing social exchange and affective components of justice. Thirdly, the reliance of the majority of researchers on self-report measures (though some researchers have successfully used supervisor-ratings) suggests that the results could suffer from common method variance. It is common in social exchange research to use a number of measures for perceived organisational support (POS), leader member exchange (LMX), commitment and trust, whilst also asking for self-reported outcomes measures including task performance, job satisfaction and turnover intentions (Loi, Hang-Yue, & Foley, 2006; Colquitt et al., 2013; Aryee et al., 2002). Whilst some researchers support their work with confirmatory factor analyses and an analysis of correlations to investigate shared variance among self-report constructs, there are others who do not. Fourthly is the 'dominance effect', which refers to the reliability of the perceived pay differential for different referents due to either information availability or measurement error. These factors can combine in research to offer limitations to the findings.

Although there have been some attempts to understand discrete emotional consequences of workplace events (e.g. Basch & Fisher, 2000; Weiss et al., 1999) the research is limited in this area both in volume and in scope. Whilst research into workplace events has incorporated the assessment of emotion this is limited in the types of event included (as discussed above), and typically does not consider the strength of emotions (e.g. Brief & Weiss, 2002; Basch & Fisher, 2000; Weiss et al., 1999). There is also a shortage of research

considering the co-occurrence and interactional effects of social exchange relationship quality and affective components of justice (Greenberg et al., 2007; Colquitt et al., 2013), and the mediating effects of emotions and social exchange relationship on justice - turnover intention relationships. There exists evidence for some of these relationships, yet little where bonus pay is concerned and little which looks at the full path. These limitations have in the past been suggested to be caused by limitations in measurement techniques available to researchers in assessing emotions and social exchange relationships dynamically, however due to the treatment of attitudes and behaviours as more state-like in nature this avenue of research can now be opened (Colquitt et al., 2013). There remain disagreements regarding the real effects of bonuses on outcomes (Pfeffer, 1997) at least in part due to differences in research methods used by researchers, and the failure to control for a number of plausible interpretations of causality (Mattson, Torbiorn, & Hellgren, 2014). Affective reactions to bonus payments due to the short-term nature of emotions must be captured shortly after issuance of a bonus payment, introducing potential limitations in methodology used. In empirical studies this involves having access to a sufficiently broad sample of the workforce at a time often deemed particularly sensitive in organisational life.

The research methods used in referent choice are largely based around choosing referents from a list numbering up to nine (e.g. Schneider & Schupp, 2010), or using policy capturing methods (e.g. Lee & Martin, 1991). A proportion of research has involved developing a list of possible referents, then asking respondents to choose the ones they use from this list (e.g. Ambrose & Kulik, 1988; Stepina & Perrewé, 1991). A limitation of this approach is that the authors tend to assume that the most frequently cited referent is the most important referent, which may be misleading as referents chosen infrequently may be more important to outcomes than those chosen more frequently. These reasonably static methods also fail to accommodate findings which support the hypotheses that there are situational elements of referent choice (e.g. Kulik & Ambrose, 1992), and people do not apply social comparison evenly (Buunk & Mussweiler, 2001). Ronen (1986) used a policy capturing method and asked respondents to rate their pay satisfaction and indicate how satisfied they were compared to a) other employees in the same organisation performing a similar job, and b) others outside the organisation doing a similar job. Correlation coefficients between pay satisfaction and these two referents were used as indicators of relative importance of the two referents. Lee and Martin (1991) used the same policy capturing approach in food retail chains but employed various referents including part-time workers, those in competitor companies, and those in heavy industries such as automobile or steel which form alternative possible places of work. Respondent's general pay satisfaction ratings were regressed on the respondents pay satisfaction relative to the referent groups, and the regression weights

were interpreted as the relative importance of the different referents. This approach, along with clear directions to participants' that the referent selected should be the most important to decision making (rather than frequency of selection) was the favoured approach after reviewing potential methods (Lee & Martin, 1991). Previous researchers have noted the limitations related to common method and dominance as outlined above and have designed methods to address these. Law and Wong (1998) used an innovative policy-capture approach to put participants into a hypothetical but realistic scenario and asked how satisfied they would be given the scenario. Since actual pay differences were used instead of perceived pay differences with respect to different referent groups, predictor variables in the regression analysis were not perceptual measures. They would therefore not have common method variance with the perception of pay satisfaction. The dominance effect is also controlled for by informing the respondents of the actual average pay for different referent groups directly, removing the requirement for respondents to estimate values. This offers two potential solutions, though it may prove difficult in reality to inform respondents about average pay for groups in the organisational setting if this is not a common practice.

Of the potential solutions to address these limitations identified in the literature many researchers suggest that experience sampling offers a potential avenue, as well as offering a chance to close a significant gap in research related to bonus pay (e.g. Dalal et al., 2009; Fisher & To, 2012; Colquitt et al., 2013; Greenberg et al., 2007). It is a method strongest when used proximal to events, and so when emotions remain stronger in the memory (Gartenberg & Wulf, 2014). Experience sampling methods have begun to introduce an element of the 'here and now' into social exchange and justice research and may offer a positive way forward in investigating the co-occurrence of attitudes and affect. Research using experience sampling as a methodology has revealed daily within person variation in justice and reciprocal behaviours (Dalal et al., 2009; Loi, Yang, & Diefendorff, 2009; Fisher & To, 2012) and could potentially be extended to include social exchange relationship and emotion measures. Similar research has investigated event, affect and behaviour relationships, successfully operationalising real time feedback using repeated measures methods at multiple intervals during the day (Miner, Glomb, & Hulin, 2005; Yong & Sooshin, 2014; Dimotakis, Scott, & Koopman, 2011). There appears an opportunity to build on current research by incorporating experience sampling techniques to investigate workplace events (and in particular bonus pay as a workplace event), justice appraisals, affect and social exchange quality and their relationship with turnover intention. Though the limitations in research and methodology are well reasoned, this opportunity to extend extant research has not gone unnoticed. Using similar arguments to this thesis, Colquitt (2012, p.6) considers a

range of evidence and comes to a similar conclusion as to the need for further research as this thesis, with his summation being:

*'Research integrating justice and affect should begin to explore whether emotions mediate justice effects when more cognitive mediators are also modelled. Existing research has been more focused on identifying and clarifying the justice emotion linkages, omitting the kinds of mediators that would flow out of more cognitive justice theorizing. Do positive and negative emotions mediate the relationships between justice and behavioural reactions when mediators like trust and felt obligation are also modelled? Examining this question requires the integration of more cognitive theories, such as social exchange theory with more affective theories, such as affective events theory. One challenge in conducting such research is balancing the differing time horizons for emotion-based mediators and cognition-based mediators. Studies that examine the mediating effects of trust or felt obligation would typically be between-individual studies of either a cross-sectional or longitudinal nature. Because emotions are short-term feeling states, it may be inappropriate to operationalize them in such studies... scholars could utilize ESM studies to model within-individual changes in emotions as a function of daily justice experiences.'*

In the past there have been reasonable methodological limitations to research considering the broad scope of event-to-outcome responses, but experience sampling methods (ESM) have proved successful in examining affective reactions (Yong & Sooshin, 2014), including reactions related to workplace events (Fisher & To, 2012). Given this understanding of the approaches available to overcome methodological limitations in extant literature, this thesis can begin to build a number of conceptual paths between the variables under investigation to test the hypotheses laid out in this chapter. While this thesis began by suggesting a 'stimulus, attitude and outcome' pathway to view organisational events such as bonus pay, justice appraisals and proxy-outcomes such as turnover intention, during this review of the available literature this has become more specific, now encompassing additional constructs such as social exchange relationship quality, social comparison mechanisms and emotion. Given the scope of the hypotheses outlined in this thesis it would add value at this point to develop the approaches required to test these hypotheses. By considering specific paths evident in theory and also suggested in previous research this thesis can also more clearly define research methods which are able to address each of the specific hypotheses described in this thesis in turn.

### 3. Research Design

#### 3.1. Introduction

The previous chapter offered an understanding of the basic areas that underly this thesis in the existing literature, namely pay for performance, bonus payments (and financial incentives in general), organisational justice, social comparison, social exchange relationship quality, affect (both trait and state) and organisational attitudes and behaviours (eventually limiting this broad area to the variable of turnover intention). The section closed by identifying gaps and limitations in the existing research, and beginning to discuss ways to close these gaps. This chapter sets out the direction of the research investigations in this thesis. It begins by summarising the distinct hypotheses the research is designed to address. It then develops three coherent figures describing the relationships between the variables based on the current research considered in the review of the literature. Finally, this chapter identifies where in these figures the hypotheses related to this research fit, and begins to consider these figures as a framework for explaining the research methods selected for testing the hypotheses, which this thesis will explain later in this section.

#### 3.2. Summary of hypotheses

The hypotheses to be addressed in this thesis are summarised below:

*H1: Bonus amount will demonstrate a linear relationship with bonus satisfaction.*

*H2a and 2b: Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention.*

*H3a and 3b: Organisational justice will mediate the relationship between (a) bonus amount and bonus satisfaction and (b) bonus amount and turnover intention*

*H4: Distributive justice will be a better predictor of bonus satisfaction and turnover intention than procedural, interpersonal and informational justice components for bonus pay conditions.*

*H5a and 5b: (a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. (b) The referent*

*selected as being most important in determining bonus satisfaction will be those in the same company at the same level.*

*H6a and 6b: Organisational Justice appraisals as a result of bonus pay are positively related to (a) state positive affect and negatively related to (b) state negative affect.*

*H7: Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay.*

*H8a and 8b: Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship on turnover intention and (b) a unique effect above and beyond that of social exchange relationship quality on turnover intention.*

*H9: Organisational justice is positively related to social exchange quality, which in turn is negatively related to turnover intention.*

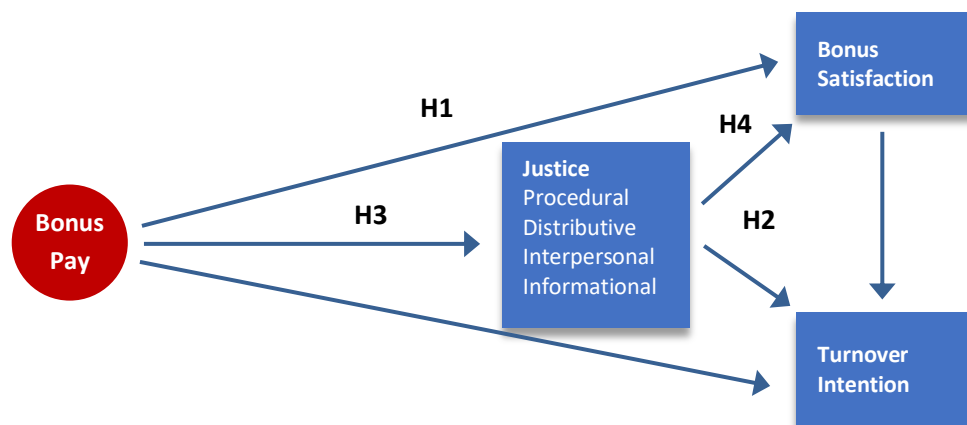
*H10: The relationship between justice and both social exchange relationship quality and turnover intention is mediated by positive or negative state affect.*

This thesis will now present figures explaining the suggested relationships between variables described by these hypotheses. This will help with further understanding of the proposed types and directions of relationships between variables, and also help to consider research methods to address these relationships.

### 3.3. Development of Three Figures Explaining Relationships Between Variables

Taken as a whole there are a number of areas of investigation in terms of bonus pay as a distinct emotion-eliciting event, and in terms of the pathways related to justice, emotions, attitudes and behaviours. While the scope of this thesis is broad, separating it into three distinct figures to be addressed allows for the explanation of a set of complex variables in more manageable relationships. It also allows the consideration of research methods which would be more suited to addressing the different relationships and hypotheses. The specifics and details of the research methods used will be discussed in more detail later in this chapter. Firstly, in order to consider how potential research areas may be related this thesis has outlines figures related to the research which are consistent with current theoretical bases and research findings. It is important to separate these areas of research as they

come from different theoretical viewpoints and to test them may require different methods. The first figure, Figure 5, describes the direct and mediated relationship between bonus pay, the types of organisational justice and attitudes such as bonus satisfaction and turnover intention. The figure is underpinned by the relationships discussed in Chapter 2 (Elfenbein, 2007; Eagley & Chaiken, 1993; Weiss & Cropanzano, 1996; Colquitt et al., 2013; Tremblay et al., 2000). This figure addresses relationships between variables included in hypotheses 1 to 4. In testing these hypotheses this thesis can also explore the strengths of relationships in this model, and in particular the relationships with the four distinct scales of justice; procedural, distributive, interpersonal and informational justice.

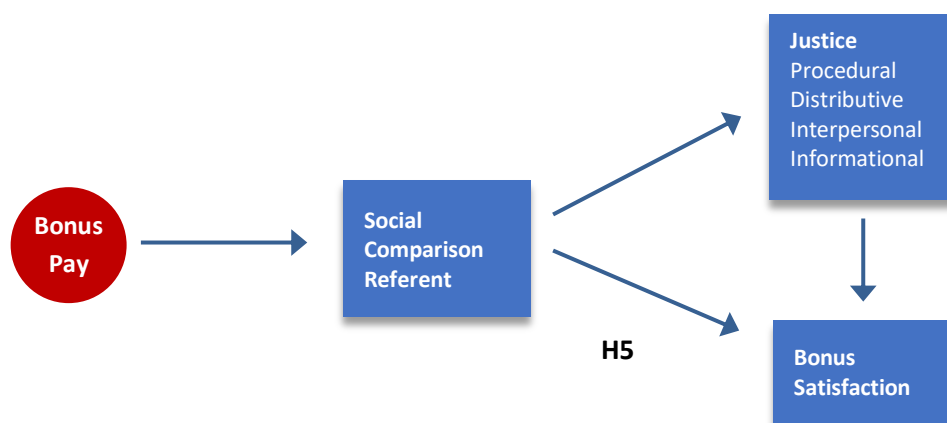


Hypothesis	Description
H1	Bonus amount will demonstrate a linear relationship with bonus satisfaction
H2a,b	Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention
H3a,b	Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention
H4	Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components

Figure 5. Outline of the first figure describing the relationships between bonus pay, organisational justice, bonus satisfaction and turnover intention.



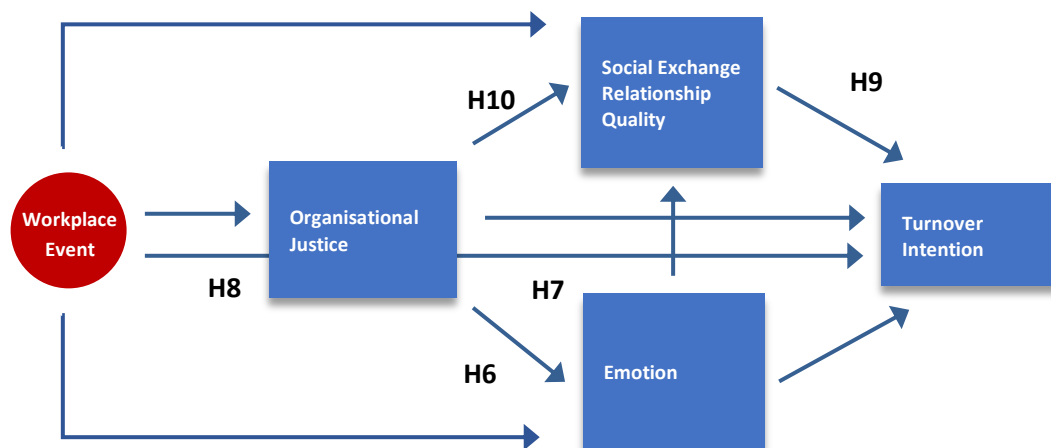
Figure 6 describes the relationships concerned with bonus pay and the social comparison referents selected by recipients when a bonus is paid. Different referents are proposed to influence justice perceptions to different extents consistent with the research outlined in the literature review, therefore there is a need to test the relationships with a range of referents. This would serve to investigate findings consistent with general pay research that referent selection will be an important determinant of both justice perceptions and bonus satisfaction. This figure will also allow the testing of hypotheses 5a and 5b (multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level). The use of similar variables in the first two sets of relationships (shown in Figures 5 and 6) will inform the research methods used in this thesis as discussed later in this chapter.



Hypothesis	Description
H5a,b	(a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. (b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level

Figure 6. Outline of the second figure describing the relationships between bonus pay, social comparison referent, organisational justice and bonus satisfaction.

Figure 7 describes the affective and social exchange relationships which are proposed in the literature to mediate the justice-outcome pathways. The direction and interaction of some of these linkages may require testing as, for instance, there is evidence for emotions preceding justice appraisals (Colquitt et al., 2013). This figure addresses hypotheses 6 to 10, involved with emotion and social exchange relationships. These hypotheses are labelled on each of the figures in this section to indicate the paths and relationships they address.



Hypothesis	Description
H6a,b	Organisational justice appraisals as a result of bonus pay are positively related to (a) state positive affect and negatively related to (b) state negative affect
H7	Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay
H8a,b	Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship on turnover intention and (b) a unique effect above and beyond that of social exchange relationship quality on turnover intention
H9	Organisational justice as a result of bonus pay is positively related to social exchange quality, which in turn is negatively related to turnover intention
H10	For bonus pay the relationship between justice and both social exchange relationship quality and turnover intention is at least partially mediated by positive or negative state affect

Figure 7. Outline of the third model showing proposed workplace event, organisational justice, social exchange and emotional responses and turnover intention relationships.

The majority of relationships covered by the three figures are included in our hypotheses, however by also investigating other path relationships in the figures this thesis can close gaps in the research identified in the literature review. At this point however it is clear from the relationships shown in Figures 5, 6 and 7 that the variables in the first two can potentially be included in a single research design as they contain relatively stable constructs, involve measures related to bonus pay, justice and bonus satisfaction, and each of the hypotheses can be tested using a cross sectional design (as long as the deployment method is coincident with bonus pay). This thesis will therefore aim for a single method to enable investigation of the first two sets of relationships. The third set of relationships requires an alternative method as it involves assessing different workplace events and measures of affect and may be required to be administered using a repeated measures approach. As this third figure includes assessment of emotions then this may require more advanced methods as emotions are unstable and short-lived in nature (Weiss, 2002). As there are distinct relationships and paths described in this investigation the thesis will provide an overview of the research design in the next section. For each of the research designs more detail regarding the methods, measures and participants will be provided in later chapters as this thesis addresses each investigation in turn.

### 3.4. Description of Research Design and Methodology

This section develops the research strategy and provides an overview of the research methods to be used to investigate the hypotheses and relationships outlined in Figures 5, 6 and 7. Firstly the section considers the strengths of both the quantitative and qualitative approaches used in previous research. It then considers the key decisions which are required in defining approaches and narrows down options for research methods by considering clear strengths and weaknesses related to distinct approaches. Finally, the section explains the methods for testing each of the relationships in Figures 5, 6 and 7, detailing the two distinct research investigations used and the rationale for their selection.

#### 3.4.1. Purpose

The purpose of this research is to contribute to the growing literature on organisational justice by considering perceptions of justice related to bonus pay within an organisation. The thesis seeks to understand the underlying psychological processes present in appraisals surrounding bonus pay and to test the role of justice as a mediating variable in pay for performance relationships. The research seeks to add to existing knowledge in a number of ways. The first is to consider bonus pay in the context of a social comparison process, where

the bonus pay announcement acts as a trigger for engaging in social comparison processes with selected referents, from which justice appraisals and satisfaction judgements are made. There are currently gaps in existing research considering the referents chosen by participants upon payment of the bonus, and the relationship between this referent selection and satisfaction with a bonus. The research investigates whether justice perceptions or bonus amount (both in real terms and as a percentage of salary) are more important in the formation of satisfaction appraisals related to a bonus. It also investigates which types of organisational justice (distributive, procedural, informational and interpersonal) are more important in determining satisfaction judgements related to bonus pay.

The thesis also contributes to existing research into bonus pay by considering bonus pay as a workplace event in comparison with other events. It investigates both social exchange relationship quality and emotional reactions to bonus pay (described as the two lenses for viewing justice in the existing literature), a need identified by previous researchers (Greenberg, 1990). The research investigates these lenses concurrently as a result of bonus pay as an event in isolation, as well as in comparison with other workplace events. Such events previously covered in research include acts of management, receiving recognition (Basch & Fisher, 2000) and incidences of conflict (Boudens, 2005) and the thesis uses a taxonomy of similar events found in current research to understand the relative magnitude and direction of effects. In this way the thesis contributes to the current body of research into workplace events to understand the impact of bonus pay relative to these events, and addresses the question posed by current researchers (e.g. Colquitt et al., 2001; Greenberg, 1990) asking what matters more to attitudes and outcomes as a result of justice appraisals, recipients emotions or the changes to their social exchange relationship quality? It is understood from the literature that reactions to each workplace event may be different. The thesis therefore investigates the differences in justice, emotion, social exchange relationship quality and turnover intention due to these distinct events, thereby further testing the basis of affective events theory and adding to the research in this area.

### 3.4.2. Research Methods

Two distinct quantitative research methods were used to conduct the research, with different methods used for each of the investigations. The two methods in combination address all of the relationships identified in Figures 5, 6 and 7 and address each of the hypotheses identified in the literature review and summarised earlier in this chapter. The first method addresses the relationships in Figures 5 and 6. A cross-sectional approach was preferred for a number of methodological reasons. Firstly, testing the relationships described in Figures 5

and 6 does not require a repeated-measures approach as all information can be gathered at a single point in time and emotion is not included as a variable. Secondly cross-sectional methods can generate a sufficient sample size to fully test the relationship between bonus amount and bonus satisfaction. Thirdly, the data gathered includes demographic data, bonus and salary data, data related to referents used and also justice, bonus satisfaction and turnover intention data. Previous researchers point to a number of benefits of cross-sectional designs (which are also considered drawbacks when using other techniques such as experience sampling methods), including a lack of need to limit variables to improve participation rates (Scollon, Kim-Prieto, & Diener, 2003). By using a cross sectional approach some considerations must be taken into account in the research design, such as when to issue the questionnaire as perceptions of justice can change over time due to memory bias, and how to issue the questionnaire to meet with the requirements of a broad participant base. These questions will be considered in the detailed method sections for each of the investigations in this thesis.

To fully research the variables and relationships included in Figure 7 an alternative method must be employed. Cross sectional methods do not fully support the assessment of emotion or reactions to different events in the workplace. They also do not allow for the assessment and identification of causality, which longitudinal methods can help to address. For this type of investigation, a repeated measured method is preferred such as experience sampling (Scollon et al., 2003). Previous authors have suggested experience sampling methods (ESM) as a potentially fruitful method for assessing the coincidence of social exchange relationship quality and affective reactions to justice (e.g. Colquitt, 2012). ESM is a more suitable technique for investigating those variables either concerned with affect (or emotion) and social exchange relationship quality or for investigating different workplace events as it allows for the investigation of the effect of these events or emotions on outcome and predictor variables. ESM also, however, comes with limitations such as the need to limit the number of variables in any measures to improve ongoing response rates (Scollon et al., 2003). The second investigation will therefore use this method to gain a deeper understanding of the relationships in Figure 7, and to assess the differential effects of emotion and social exchange relationship for different workplace events including the specific event of bonus pay. While there are benefits to researching these relationships for bonus pay as an event, the addition of other workplace events will support the testing of hypothesis 8 (bonus payment will be a work event which can be considered an affective event as per the tenets of AET). It will also allow the research to investigate the emotional reactions associated with bonus pay in comparison with other events in the workplace, and allow this thesis to investigate the relative social exchange relationship quality and affective

relationships for a range of events and so draw more complete conclusions in terms of their association with turnover intention.

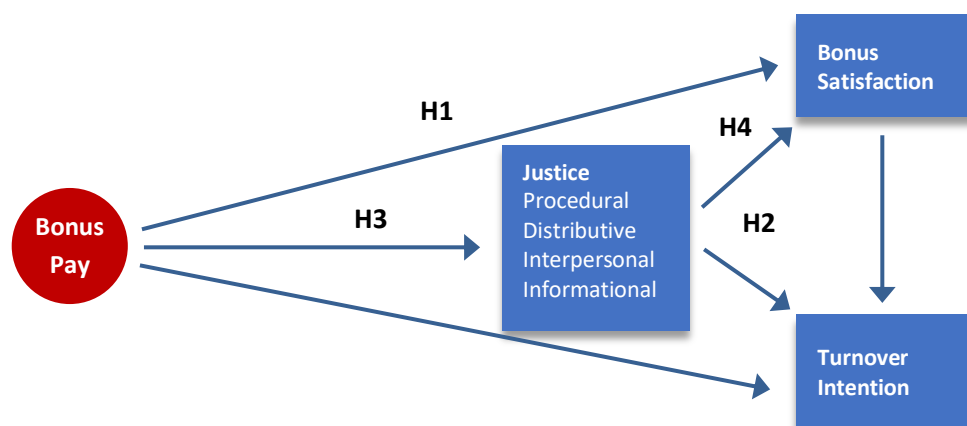
If the research is separated into two clear pieces to address these three sets of relationships, it is possible to explain the approaches used to investigate each of these relationships in more detail and provide justification for the research methods based on the balance of needs of ESM to limit variables as outlined in previous research, with the need for a sufficient sample size to be able to fully investigate bonus amount – bonus satisfaction relationships. In order to address each of the hypotheses developed in Chapter 2 the thesis therefore uses two distinct methods. The first method is cross sectional, with a questionnaire issued to participants as soon as administratively possible after the announcement of the bonus to reduce memory bias. This method addresses the relationships and hypotheses in Figures 5 and 6 outlined earlier in this section, and is designed to capture demographic data as well as data related to the variables of bonus pay, organisational justice (both as an aggregated construct and as the individual scales of distributive, procedural, interpersonal and informational justice), bonus satisfaction, turnover intention (to test hypotheses H1 – H4) and social comparison referent (to test hypothesis H5). The second method is a repeated measure, experience sampling design using a diary format and addresses the relationships described in Figure 7. This method is designed to capture participant demographic data, data on the workplace events participants experience during the research period (a period during which the participants bonus is announced), organisational justice, social exchange relationship quality, emotion and turnover intention. This design allows for the investigation of relationships outlined in Figure 7 for bonus pay as an event, and also allows for the comparison of the effects of bonus pay as an event with other events experience over the research period. By using the same time period this provides a consistent organisational context during which events occur. This method allows the testing of hypotheses H6 – H10.

In the next chapter a partition will be created in this thesis. Chapter 4 will outline the method for the cross-sectional investigation considering the variables of Bonus Amount, Referent Selection, Organisational Justice (including the distinct scales of distributive, procedural, interpersonal and informational justice), Bonus Satisfaction and Turnover Intention designed to address the relationships outlined in Figures 5 and 6 in this chapter. Chapter 5 will outline the results of this investigation. In a similar vein, Chapter 6 will consider the experience sampling method used to investigate relationships identified in Figure 7, those between workplace events (including Bonus Pay as a distinct event), Organisational Justice, Emotion, Social Exchange Relationship quality and Turnover Intention. Each of these two chapters (Chapter 4 and Chapter 6) will discuss the research designs in more depth, providing details

of more granular elements of the design such as their appropriateness, participants, the measures employed and data collection and analysis techniques. Each chapter outlining the method is followed by a chapter sharing the results of each investigation (in Chapters 5 and 7), with a discussion of the overall findings provided in Chapter 8 of this thesis.

#### 4. Study 1: Bonus Pay, Referent Selection, Organisational Justice, Bonus Satisfaction and Turnover Intention

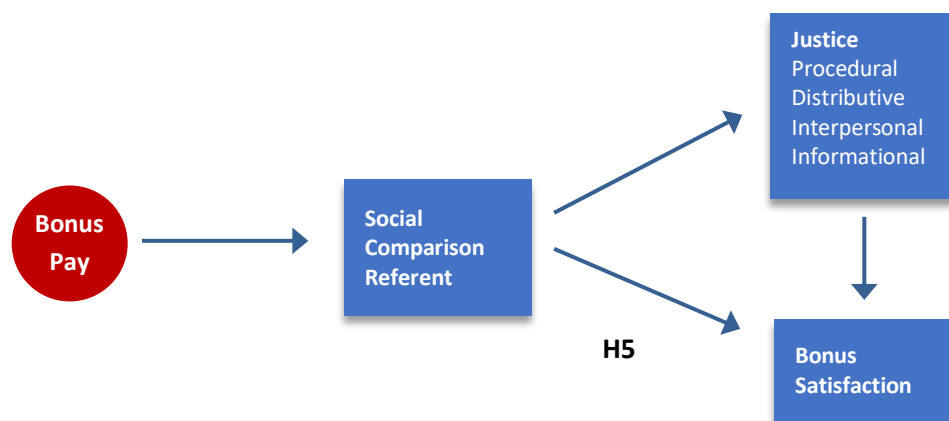
In order to effectively demonstrate the relationships which form a part of this study (the first of two which together address the hypotheses in this thesis), Figures 8 and 9 describe the two sets of variables, paths and hypotheses to be addressed by this investigation. The thesis will describe the method used to investigate these relationships over the following section, before presenting the results of this study in the next chapter (Chapter 5).



Hypothesis	Description
H1	Bonus amount will demonstrate a linear relationship with bonus satisfaction
H2a,b	Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention
H3a,b	Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention
H4	Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components

Figure 8. Outline of the first figure describing the relationships between bonus pay, organisational justice, bonus satisfaction and turnover intention.





Hypothesis	Description
H5a.b	(a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. (b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.

Figure 9. Outline of the second figure describing the relationships between bonus pay, social comparison, organisational justice and bonus satisfaction.

#### 4.1. Introduction

The first of the investigations included in this research considers the relationships between bonus pay, organisational justice, satisfaction with the bonus paid, and turnover intention. The research seeks to understand the relationship between the amount paid in bonus (both in terms of absolute amount and as a percentage of the recipient's salary) and both bonus satisfaction and turnover intention and investigates which predictor variable has the strongest association with turnover intention; organisational justice, satisfaction with the bonus or the amount paid in bonus. Distinct components of organisational justice are included in the investigation (distributive, procedural, interpersonal and informational) to explore which is the most effective in predicting bonus satisfaction and turnover intention. In this method the thesis also investigates the referents chosen by participants when engaging in justice appraisals related to bonus pay. Although these relationships are described in a separate figure in the research outline (Figure 9), the similarity of variables and relationships in this figure when compared with Figure 8 allows for the development of a single research design which will address both of these sets of relationships. The hypotheses this research investigation seeks to address are:

*H1: Bonus amount will demonstrate a linear relationship with bonus satisfaction.*

*H2a and 2b: Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention.*

*H3a and 3b: Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention*

*H4: Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components for bonus pay conditions.*

*H5a and 5b: (a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. (b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.*

#### 4.2. Appropriateness of the Research Design

In order to investigate the range of research relationships and hypotheses using a controllable set of measures, to allow for the standardisation of information and to generate a sample size sufficient for effectively analysing the relationships, a quantitative survey approach was used with a cross-sectional sample. A survey approach was chosen as it does not require control over participant actions, and mainly focuses on contemporary events (such as bonus pay). It is an approach which also allows participants to remain anonymous, and so is suitable for attracting participants in bonus research where there may be some reticence in disclosing personal information such as the amount received. Table 2 illustrates relevant applications suitable for different research strategies.

Table 2.

*Different strategies used for investigating research questions (source: Yin, 1984)*

Strategy	Forms of Research Question	Control Over Events?	Focus on Contemporary Events?
Experiment	How, Why	Yes	Yes
Survey	How, What, Where, How Many, How Much	No	Yes
Archival Analysis	How, What, Where, How Many, How Much	No	Yes/No
History	How, Why	No	No
Case Study	How, Why	No	Yes

A cross sectional survey design, though not ideal for developing a view of cause-and-effect relationships, offers a number of strengths for this proposed investigation. The study provides only a snapshot of analysis, yet the nature of a bonus payment is that it is typically announced periodically, and at this point (or as close to this point as possible to ensure accuracy of appraisal, and that the research is not relying on distal memories of events) data can be gathered. Unlike in experimental design (where there is an active intervention by the researcher to produce and measure differences), cross-sectional designs focus on studying and drawing inferences from existing phenomena, with groups selected based on existing differences in the sample. It is therefore well suited to assess workplace events such as bonus pay. Cross-sectional studies are capable of using data from a large number of subjects and unlike observational studies are not geographically bound. The method allows for the estimation of the prevalence of an outcome of interest because the sample is usually taken from the whole population. As the technique typically uses surveys to gather data, it is also relatively easy to administer to a broad number of participants using a standardised approach and so can test complex relationships such as the hypothesised non-linearity of the relationship between bonus pay and bonus satisfaction. Amongst the limitations of cross-sectional methods are the fact that researchers using this method can only employ a relatively passive approach to making causal inferences based on findings, results are time bound (and there is the possibility that results would be different if another bonus period was chosen), they give no indication of a sequence of events involved in the bonus pay-to-attitudes pathway, and there is no potential follow up to the findings to test the downstream

impacts of proximal attitudes to bonus pay, such as whether turnover intention actually results in turnover.

#### 4.3. Research Design

A cross-sectional survey was administered to participants no more than 24 hours after the announcement of their bonus so as to accurately capture perceptions and reduce memory bias. When investigating processes in bonus research in more detail, this research identified two distinct appraisal events; when information regarding the bonus is announced (the bonus announcement), and when the bonus is paid (the bonus payment). The bonus announcement is more salient to this research as this is when the initial appraisal for determining justice is made. This was therefore used as the trigger for the measure, subsequently revealing a snapshot of effects immediately following the announcement of the bonus (or as close as administratively possible). Participants were recruited from organisations the author worked with as a management consultant between the years 2015 and 2018. As a management consultant working in the human resources function within large corporate organisations the author had access during this period to executives and managers able to provide consent for access to organisational databases (in order to identify participants) and to provide sponsorship and engagement aimed at driving participation in the research. The organisations involved in the research (from which participants are drawn) represent a range of public and private sector organisations with employee numbers ranging from 25,000 to 80,000. As the research is designed to be as generalisable as possible the research was approached as if sampling the UK bonus earning workforce.

Using standardised approaches for understanding sample sizes and estimating the UK bonus earning workforce as 10.2 million (taking 32% of the UK working population of 31.8 million in 2017) (Attwood, 2017; Office for National Statistics, 2017) a sample size of at least 384 is required to achieve a 95% confidence level at a confidence interval of 5. This provides the scale of cross-sectional survey which would need to be administered (Kirby et al., 2002). A variety of 'rules of thumb' exist regarding minimum sample sizes, the most common positing at least 10-15 data points per predictor parameter in a model; e.g. with three predictors such as location, colony and infection intensity, 30 to 45 experimental units would be required (Field, 2013). For regression models (e.g. ANOVA), with  $P$  predictors, the recommended minimum sample size proposed is ' $50 + 8P$ ' to adequately test the overall model, and ' $104 + P$ ' to adequately test each predictor of a model (Green, 1991). Alternatively, with a high level of statistical power (using Cohen's (1988) benchmark of 0.8), and with three predictors in a regression model: i) a large effect size ( $> 0.5$ ) requires a

minimum sample size of 40 experimental units; ii) a medium effect size (approximately 0.3) requires a sample size of 80; iii) a small effect size (of circa 0.1) requires a sample size of 600 (Miles & Shevlin, 2001; Field, 2013). We will therefore aim for a sample size of more than 600 participants in order to satisfy the conditions of both Kirby et al. (2002) and Field (2013).

The type of sampling strategy used was non-probability, convenience sampling. The sample was both purposive and haphazard (therefore proving inexpensive, efficient, and convenient) as it consisted of volunteers and thus relied on the willingness of employees to respond and participate (Cozby, 2009). There was no way to estimate and ensure that the probability of each element of the population was represented in the sample, as well as no guarantee that each element had some chance of being included because it was voluntary. This may therefore limit the generalisability of the findings (Cozby, 2009). While there are a number of strengths to having access to multiple workforces to conduct this research (all of whom are paid differential bonuses based on differential performance practices and systems), there are also drawbacks. Representativeness of the sample should be strong given the diverse nature of respondents, but it is difficult to understand intra-individual differences in justice appraisals if each procedure and organisational context and climate is different. These contexts and climates may at least partially govern allocation rules, interpersonal interactions and information sharing practices and therefore influence justice appraisals. This research must take it as unimportant the actual processes for distributing and communicating bonuses and focus more on the individual appraisals of these events. The purpose of the research is not to test interpersonal justice reactions to the same process, but rather to test the general intrapersonal psychological appraisal mechanisms triggered by the event of the bonus announcement, and the relationships between justice and both satisfaction and turnover intention.

#### 4.4. Method

In order to develop an effective methodology using appropriate measures, a pilot study was conducted using 50 participants in the single function of a professional services organisation. Participants were recruited directly by email through work networks. The pilot was designed to test and validate the communication, administration, measures and analysis techniques proposed for use. In the pilot study the independent variable under investigation is amount of bonus paid, both in absolute terms and as a percentage of salary. The inclusion of bonus as a percentage of salary is an attempt to include a measure of bonus related to a 'starting

point' as a reference amount as detailed by Mitra et al. (2016). Mediating variables are referent selection, organisational justice (using the distinct scales of distributive justice, procedural justice, informational justice and interpersonal justice) and bonus satisfaction. The dependent variable is turnover intention. In order to replicate the study over time a consistent process and repeatable cross-sectional survey design was used. The sample was limited to those who receive an annual bonus, with all employees paid in a one-off payment. The bonus amount is in excess of 5% of a participant's annual salary, and so represents an amount identified in literature as a 'smallest meaningful increase' as discussed by Mitra et al. (2016). The survey was administered on the day of the bonus announcement, with instructions to complete the survey within a strict timeframe of 24 hours after the announcement of the annual bonus received by each employee. Co-ordination was therefore required between annual bonus processes in the organisations from which participants were recruited and the process used to deploy the survey. In order for ease of distribution and response, the survey was hosted online using a commercially available, cloud-based software as a service (SaaS) provider. The survey was distributed by email to each participant via a link embedded in an email on the day of the bonus announcement, marked urgent, requesting immediate response to the survey. The email sent by the researcher contained a link to access the survey, along with text reminding participants of the purpose of the study and reinforcing the confidentiality of any information submitted. Microsoft outlook was used as the email application for distribution of the communications, which enabled pre-formatted communications materials to be copied into each email sent to participants. This proved efficient as Microsoft outlook was also the email application used by all participant organisations in the research proper, therefore the same materials and formats were able to be re-used for all participants.

Following completion of the pilot study an initial analysis of the results was conducted and feedback solicited from participants. Upon analysis of the results correlations between measures of bonus satisfaction and distributive justice proved to be high ( $r = 0.88$ ,  $p < 0.01$ ) which combined with feedback from participants suggested that items in these measures were not substantially distinct in terms of their description of separate constructs. Both measures were however retained in their original structure following a detailed factor analysis showing that a single item was of concern, but loaded comparatively onto both measures. Some questions were reworded to harmonise the language used across measures, but items retained their original structure and meaning. Communications were also improved due to feedback from pilot study participants which suggested that the questions the research is seeking to answer, instructions for completion and links to the survey (including the call to action) be made clearer and highlighted in the communications.

The updated engagement materials were tested with a selection of pilot study members who confirmed that the changes improved the materials. The materials were then saved for distribution to participants in the full investigation and are included in Appendix 1 in Chapter 11. The method used in the pilot study was the same as that used for the study proper.

#### 4.5. Participants

In order for the survey to be generalisable and in order to recruit sufficient participants, it was held open until there were sufficient participants to reach confidence levels and intervals (targeted at 600). Participants were sourced and recruited through personal and professional networks, in organisations with which the author worked as a management consultant between April 2015 and November 2017. This allowed the author access to the organisational stakeholders and data (such as email addresses and bonus characteristics) required to effectively recruit participants. Participants were generally from middle manager, senior manager or technical specialist positions in various functions (for example human resources, finance, strategy, information technology) of corporate organisations across industries such as healthcare, retail, logistics, utilities, energy and gas and financial services. All participants have access to internet-based questionnaires, both via laptop PCs and internet-enabled smartphones issued by the employing organisations. The number of organisations represented totals more than 20, though participants were not asked to self-identify organisation for confidentiality purposes (as for some organisations the number of participants is limited). The target population for the study consisted of salaried, full-time employees aged 18 or over who had worked for their employer for more than 12 months (as required by many of the participant organisations to receive a bonus). The sponsors ensured the use of organisational databases to apply filters to potential participants to ensure these parameters were met. The participants were selected for four reasons:

- a) all participants receive an annual bonus in excess of 5% of their annual salary, and so receive a sum considered in excess of a 'smallest meaningful pay increase' (or SMIP) as described by Mitra et al. (2016).
- b) bonus pay is contingent on performance or a defined job outcome.
- c) access to participants as co-workers over the period of a bonus announcement meant administration could be simple, briefings held where possible, and response rates and disclosure accuracy for those asked to participate reasonably high.
- d) the survey is able to be completed 24 hours from the bonus announcement.

In total 1368 people were contacted via email during the period the study was open (between April 2015 and November 2017). A total of 620 participants (45.3%) completed the survey within 24 hours of their bonus announcement over a four-year period (meeting our participant requirement of 600), with each annual round of bonuses during this period forming another ‘window’ to recruit participants. The author received 243 responses from potential participants who missed the 24-hour completion window. These responses were excluded from the analysis. A further 31 people responded to the email declining to participate as they did not wish to disclose their salary or benefits. Twenty-one of the 620 participants could not be included as their surveys were only partially completed, leaving 599 participants where responses had sufficient quality (43.8%). Processes for recruiting and engaging participants were standardised over the four-year period to ensure a consistent process and experience for participants (with communications included in Appendix 1). In the first year in April 2015 (discounting the pilot study, after which some items and communications materials were reformatted) 86 people participated in the survey. In November of 2015 a further 92 people participated. The participant rate until closure of the survey in November 2017 is included in Table 3. All participants from the same organisation completed the survey at the same point in time, meaning that the increase in participants over time was due to the recruitment of participants from additional organisations rather than the recruitment of additional participants from the same organisation. This ensured that participants were unique in the survey and that there are no repeat measures issued to the same participants. The response rate (43.8%) is acceptable given the short timescales for completing the survey following the bonus announcement and the personal nature of the information.

Table 3.

*Participant recruitment to cross sectional survey from April 2015 to November 2017*

Date	Cumulative Participants	Additional Participants
April 2015	86	86
November 2015	178	92
April 2016	294	116
November 2016	381	87
April 2017	469	88
November 2017	620	151



#### 4.6. Instruments and Measures

Due to the diverse nature of the constructs under investigation, it was necessary to create a consolidated questionnaire from a battery of existing measures. Participants completed demographic details of gender (male or female) and position (whether a manager or non-manager). Participants then provided information related to their annual salary in the year of bonus, and the annual bonus earned in that year (to the nearest thousand pounds).

Participants then completed sections of the questionnaire in which they a) identified the importance of referents used in their appraisal (using nine referents as per research by Bordia & Blau, 1998), b) completed the organisational justice scale (OJS; Colquitt, 2001), c) completed the bonus satisfaction scale (BSS; Sturman & Short, 2000) and d) completed the turnover intention scale (TI-6; Bothma & Roodt, 2013). Whilst in their own right the language and syntax of the measures identified above are different, in the combined questionnaire items were reformatted and reworded (following feedback during our pilot study) in order to harmonise the items to reduce the cognitive effort required to complete the survey. Details of these individual measures which combine to make our full questionnaire are provided in the next sections.

##### 4.6.1. Referent Selection Measure

In terms of the referents which participants select when social comparisons are made regarding a bonus payment, Blau (1994) identified five pay referent dimensions: historical, financial, organisation, market and social. Blau further refined this list in subsequent research to 9 referent items which forms to date the most complete list of referents to be researched in the extant literature, detailed in Table 4 (Bordia & Blau, 1998). To prevent the confusion identified in previous research (e.g. Law & Wong, 1998), where participants are asked to rate the frequency of choice of referent and this is then taken as a proxy for importance, participants in our research were asked directly to answer the question 'which referent is important to you in order to judge whether your bonus is fair?'. The level was measured using a 5-point response scale, where 1 = not important; 2 = less important; 3 = neutral; 4 = important; and 5 = very important. This method is consistent with previous research (Blau, 1994; Scholl et al., 1987) though it tackles directly some of the weaknesses identified in previous research (e.g. Law & Wong, 1998) in confusing frequency of selection with strength of importance where referents are concerned. While in Table 4 the summary of referents has identified the part of the organisation ecosystem to which the referent is related (e.g. internal – same level; external; historical), in the measure used in practice these labels

were not included. The actual wording of the items used is shown in the full questionnaire in Table 8.

Table 4.

*Summary of referents used in previous research. Source: Adapted from Bordia & Blau (1998)*

Referent	Summary
1	'what other people in this company at my job level are paid' (internal - same level);
2	'what other employers are paying for my kind of work' (external);
3	'what this company promised it would pay me' (system);
4	'the cost of living' (cost of living);
5	'what I have been paid in previous jobs' (historical);
6	'what I think I am worth' (personal);
7	'what others in this company at a higher job level than mine are paid' (internal - higher level);
8	'the pay of others in this company who are below my job level' (internal – lower level);
9	'my friends' pay' (friends).

#### 4.6.2. Organisational Justice Measure

Organisational justice perceptions were assessed using the organisational justice model developed by Colquitt (2001) and operationalised in the organisational justice scale (OJS, Colquitt, 2001). The item consists of 4 scales (procedural justice, distributive justice, interpersonal justice, informational justice) with 20 items in total and has been positioned by justice researchers as amongst the most effective measures of organisational justice in current use (Colquitt, 2001; Shibaoka et al., 2010). Previous research has found alpha levels to be acceptable for the measure, with the four factors (distributive justice, procedural justice, interpersonal justice and informational justice) returning alpha levels of 0.95, 0.86, 0.90, 0.93 respectively (Colquitt & Rodell, 2011). As recommended by Nunnally and Bernstein (1994), an alpha of .70 was used as the cut-off point to estimate internal consistency reliability. The items were modified slightly to suit use in bonus conditions and context, which involved minor changes in syntax and wording. All items use a 5-point Likert-type scale with anchors of 1 = to a small extent and 5 = to a large extent. The measure has

been used in field research with success and has been shown to be reliable and valid (Shibaoka et al., 2010). The OJS aligned to the four individual justice scales is detailed in Table 5.

Table 5.

*Organisational Justice Scale items. Source: Colquitt, (2001)*

Item	Justice Type	Summary
The following items refer to the procedures used to arrive at your (outcome). To what extent:		
1	Procedural	Have you been able to express your views and feelings during those procedures?
2	Procedural	Have you had influence over the (outcome) arrived at by those procedures?
3	Procedural	Have those procedures been applied consistently?
4	Procedural	Have those procedures been free of bias?
5	Procedural	Have those procedures been based on accurate information?
6	Procedural	Have you been able to appeal the (outcome) arrived at by those procedures?
7	Procedural	Have those procedures upheld ethical and moral standards?
The following items refer to your (outcome). To what extent:		
1	Distributive	Does your (outcome) reflect the effort you have put into your work?
2	Distributive	Is your (outcome) appropriate for the work you have completed?
3	Distributive	Does your (outcome) reflect what you have contributed to the organisation
4	Distributive	Is your (outcome) justified, given your performance?
The following items refer to (the authority figure who enacted the procedure). To what extent:		
1	Interpersonal	Has (he/she) treated you in a polite manner?
2	Interpersonal	Has (he/she) treated you with dignity?
3	Interpersonal	Has (he/she) treated you with respect?
4	Interpersonal	Has (he/she) refrained from improper remarks or comments?
The following items refer to (the authority figure who enacted the procedure). To what extent:		
1	Informational	Has (he/she) been candid in (his/her) communications with you?
2	Informational	Has (he/she) explained the procedures thoroughly?
3	Informational	Were (his/her) explanations regarding the procedures reasonable?
4	Informational	Has (he/she) communicated details in a timely manner?
5	Informational	Has (he/she) seemed to tailor communications to individuals' specific needs?

#### 4.6.3. Bonus Satisfaction Measure

Satisfaction with lump-sum bonus was assessed using an extension of the Pay Satisfaction Questionnaire (PSQ) as proposed by Sturman and Short (2000). The measure consists of 4 items measured on a 5-point Likert-type scale ranging from 1 = very dissatisfied to 5 = very satisfied, with respondents indicating their satisfaction with 4 statements describing their lump sum bonus. These statements are shown in Table 6. Sturman and Short (2000) have demonstrated that the instrument exhibits reliability, and both convergent and discriminant validity, and captures unique variance beyond well-used measures of pay satisfaction such as the PSQ (Sturman & Short, 2000). The four elements assessed by the complete PSQ have demonstrated Cronbach's alpha above the allowed threshold of 0.7 in previous research, with alpha levels of 0.96, 0.94, 0.90, and 0.90 returned for pay level, benefits, raise, and structure/administration satisfaction factors respectively (Sturman & Short, 2000). This is supported by other research using the PSQ and finding similar levels of reliability (e.g. Heneman & Schwab, 1985; Judge & Welbourne, 1994). While in Sturman and Short (2000) the measure (as an extension of the PSQ) was not given a clear name, this thesis refers to the measure as the bonus satisfaction scale (BSS) throughout.

Table 6.

*Bonus Satisfaction Scale (BSS) items. Source: Sturman & Short (2000)*

Item	Summary
1	I am satisfied with my most recent bonus
2	I am satisfied with the influence that others have on my bonus
3	I am satisfied with the bonuses I have typically received in the past
4	I am satisfied with how my bonus is determined

#### 4.6.4. Turnover Intention Measure

Turnover intention was assessed using a six-item measure (the turnover intention survey; TIS-6) as shown in Table 7 (Bothma & Roodt, 2013). The TIS-6 measures participant responses using Osgood's (1964) semantic differential technique of bipolar 5-step response scales defined by two opposites (e.g., never - always; to no extent - to a very large extent; highly unlikely - highly likely). The overall reliability of the TIS-6 ( $\alpha = 0.80$ ) is acceptable for use. Bothma and Roodt (2013) also established that scores returned using the TIS-6 significantly relate to work engagement, work-based identity, burnout, helping behaviour, work alienation and task performance. These findings confirm previous research conducted by Bakker and Demerouti (2007), Bakker et al. (2004), Demerouti et al. (2000) and Schaufeli and Bakker (2004) linking turnover intention to work engagement, burnout and both task and job performance, hence supporting our use of this measure as a proxy for performance. In previous research the TIS-6 has been shown to significantly distinguish between leavers and stayers within an organisation thereby confirming its criterion-predictive validity (Bothma & Roodt, 2013). The scale was selected for this study because of its reliability and validity and its proven use in similar methods.

Table 7.

*Turnover Intention Survey TIS-6 items. Source: Bothma and Roodt (2013)*

Item	Summary
1 <sup>a</sup>	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?
2 <sup>a</sup>	How often have you considered leaving your job?
3 <sup>a</sup>	How often do you dream about getting another job that will better suit your personal needs?
4 <sup>b</sup>	How likely are you to accept another job at the same compensation level should it be offered to you?
5 <sup>c</sup>	To what extent is your current job satisfying your personal needs?
6 <sup>d</sup>	How often do you look forward to another day at work?

a - Scale: 1 = Never to 5 = Always

b - Scale: 1 = Highly unlikely to 5 = Highly likely

c - Reverse coding used. Item mean scale 1 = To a very large extent to 5 = To no extent.

d - Reverse coding used. Item mean scale 1 = Always to 5 = Never.

#### 4.6.5. Combined Questionnaire

The total combined questionnaire consists of an initial section to capture demographic variables, a section to capture both bonus payment and salary numerically, and 5-point Likert-type scales related to referent importance, organisational justice, bonus satisfaction and turnover intention. Each of the measures vary in terms of syntax and scale descriptions, though each uses a 5-point Likert-type scale to bring some consistency to the overall questionnaire. Excluding survey questions related to demographics, salary and bonus amount, the questionnaire consists of 36 items in total (though the addition of demographic variables increases this number to 41). Each item has been altered slightly from the original wording in order to apply more closely to a bonus pay context and to harmonise the language used throughout the questionnaire, however the original intent of each item is maintained. The full set of items used in the final survey is included as Table 8.

Table 8.

*Full 41-item questionnaire including demographic variables*

Item	Variable	Question
Demographic Variables		
1	Gender	Selection of male / female
2	Position	Selection of manager / non-manager
3	Salary	Please enter your salary to the nearest thousand pounds
4	Bonus	Please enter the bonus you will receive to the nearest thousand pounds
Which referent is important to you in order to judge whether your bonus is fair?		
5	Referent 1	What other people in this company at my job level are paid
6	Referent 2	What other employers are paying for my kind of work
7	Referent 3	What this company promised it would pay me
8	Referent 4	The cost of living
9	Referent 5	What I have been paid in previous jobs
10	Referent 6	What I think I am worth
11	Referent 7	What others in this company at a higher job level than mine are paid
12	Referent 8	The pay of others in this company who are below my level
13	Referent 9	My friends pay
Please indicate the extent to which you agree with the following in relation to your bonus:		
14	Procedural	I have been able to express my views and feelings during the procedure
15	Procedural	I have had influence over the bonus arrived at by those procedures
16	Procedural	The bonus procedures been applied consistently

17	Procedural	The bonus procedures have been free of bias
18	Procedural	The procedures were based on accurate information
19	Procedural	I have been able to appeal the bonus arrived at by those procedures
20	Procedural	The procedures have upheld ethical and moral standards
21	Distributive	My bonus reflects the effort I have put into my work
22	Distributive	My bonus is appropriate for the work I have completed
23	Distributive	My bonus reflects what I have contributed to the organisation
24	Distributive	My bonus is justified, given my performance
25	Interpersonal	I have been treated in a polite manner
26	Interpersonal	I have been treated with dignity
27	Interpersonal	I have been treated with respect
28	Interpersonal	The bonus issuer has refrained from improper remarks or comments
29	Informational	The bonus issuer has been candid in communications with me
30	Informational	Procedures related to my bonus have been explained thoroughly
31	Informational	Explanations regarding the procedures were reasonable
32	Informational	Details have been communicated in a timely manner
33	Informational	Communications have been tailored to individuals' specific needs
34	Bonus Sat	I am satisfied with my most recent bonus
35	Bonus Sat	I am satisfied with the influence that others have on my bonus
36	Bonus Sat	I am satisfied with the bonuses I have typically received in the past
37	Bonus Sat	I am satisfied with how my bonus is determined
38	Turn Inten	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?
39	Turn Inten	How often have you considered leaving your job?
40	Turn Inten	How often do you dream about getting another job that will better suit your personal needs?
41	Turn Inten	How likely are you to accept another job at the same compensation level should it be offered to you?
42	Turn Inten	To what extent is your current job satisfying your personal needs?
43	Turn Inten	How often do you look forward to another day at work?

---

#### 4.7. Data Collection

The data was collected via a survey hosted on a commercially available software as a service (SaaS) survey tool (Google forms). The tool was chosen due to the balance of effectiveness, cost, scalability, access (with response possible both by personal computer and mobile phone), compatibility with organisational systems, and ability to output in usable formats. Screenshots of the data entry platform with formats for the Likert scale are shown in Figures 10 and 11. The survey form data was entered in March of 2014, one month prior to the official opening of the research. The same survey was used for the full duration of the research to ensure consistency. Participants were selected by requesting the details of the individuals who met the selection criteria from the head of function (detailed in section 4.5). Each head of function with whom the author worked in the capacity as a management consultant during the research period was asked for their sponsorship to conduct the research in their accountable function. This sponsorship also meant agreeing to provide access (either directly or through a nominated person within the function) to data including the contact details of each of the individuals in the function who met the selection criteria. This prevented sponsorship in some organisations as the heads of function felt unable to provide this data to a third party for research purposes given internal policies. The data collected from those who chose to participate was typically provided in a password protected worksheet in Microsoft excel as an export from the human resources database of the participating organisation. Individual participants were then contacted directly by email. This therefore limited the selection approach in each case to all available employees who met the selection criteria within the accountability of the head of function approached for sponsorship in that instance. No issues were encountered with company information services being unable to access the survey tool, and this was tested before administration in each organisation. The data was downloaded as a comma-separated value (.csv) file from the survey tool and converted into an excel file to further screen participant responses for incomplete surveys and surveys where participants may have answered the same for each question. Here it was processed further for entry into SPSS to enable further analysis.



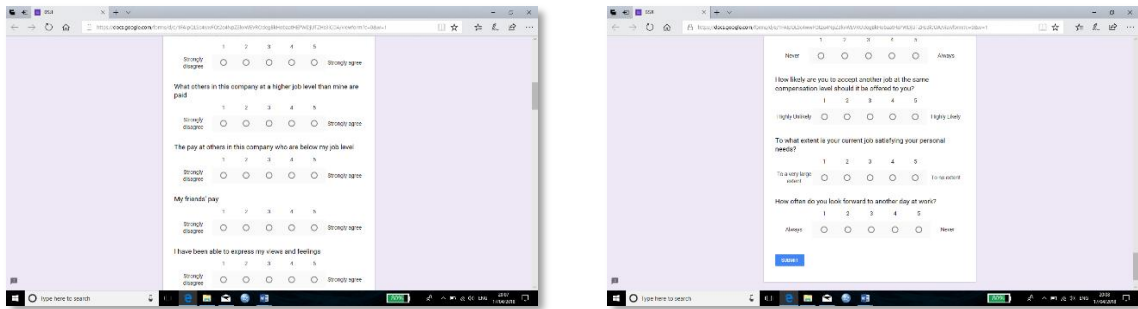


Figure 10. Screenshots of the survey hosted on google forms as experienced by users from a PC platform.

What other people in this company at my job level are paid

1 2 3 4 5

Strongly disagree ☐ ☐ ☐ ☐ ☐ Strongly agree

What other employers are paying for my kind of work

1 2 3 4 5

Strongly disagree ☐ ☐ ☐ ☐ ☐ Strongly agree

What this company promised it would pay me

1 2 3 4 5

to what extent is your current job satisfying your personal needs?

1 2 3 4 5

To a very large extent ☐ ☐ ☐ ☐ ☐ To no extent

How often do you look forward to another day at work?

1 2 3 4 5

Always ☐ ☐ ☐ ☐ ☐ Never

SUBMIT

Figure 11. Screenshots of the survey hosted on google forms as experienced by users from mobile platforms.

#### 4.8. Data Analysis

The results were consolidated into a single spreadsheet, converted to a comma-separated value (CSV) file, and both saved as an Excel worksheet (Microsoft excel version 1805) and uploaded into SPSS (Version 20) where statistical analyses were performed. Details of the statistical procedures applied to each of the hypotheses outlined in Figures 8 and 9 are shown in Table 9. This will bring some clarity as to how each of the hypotheses was tested using the collected data set. Specific analysis steps and outcomes are described in more detail in the results chapter (Chapter 5).

Table 9.

*Hypotheses and proposed statistical procedure to be used*

Hypothesis	Variables	Statistical Procedure
H1	Bonus amount, Bonus Satisfaction	<ul style="list-style-type: none"><li>• Correlation analysis</li><li>• Plot of amount and satisfaction and analysis of best fit</li></ul>
H2a & 2b, H3a & 3b, H4	Bonus amount, Organisational Justice, Bonus Satisfaction, Turnover Intention	<ul style="list-style-type: none"><li>• Hierarchical multiple regression analysis</li><li>• PROCESS Macro for SPSS (Hayes, 2017)</li></ul>
H5a & 5b	Referent Selection	<ul style="list-style-type: none"><li>• Frequency tests</li><li>• Exploratory / confirmatory factor analysis</li><li>• Hierarchical multiple regression analysis</li></ul>

## 5. Results of Study 1: Cross-Sectional Study

In Chapter 5 this thesis presents the results of the cross-sectional investigation. This investigation is designed to address the relationships identified in Figures 8 and 9 in Chapter 4. In this chapter the thesis considers both general findings and investigates the hypotheses which the research is designed to address (H1, H2, H3, H4, H5 as detailed in Section 4.1). This chapter begins by providing the reliability of the measures used in the investigation, followed by the descriptive statistics associated with the investigation. The thesis then uses the data analysis methods described in Table 9 to describe the nature of the relationships investigated in this research. Whilst providing an overview of the relationships more generally, each of the hypotheses is also addressed in specific sections throughout this chapter.

### 5.1. Reliability

Turning to the data's reliability and validity, Bryman and Cramer (1992) recommend that the result should be .8 or above, however test results from previous studies have shown that this level is not always attained and that anything above 0.7 is considered acceptable for most research purposes (Allen & Bennet, 2012). Cronbach's alpha for each of the measures within the 39-item questionnaire proved acceptable. The organisational justice scale (Colquitt et al., 2001), returns a value for alpha of 0.91, with each of the scales within the measure also returning acceptable values of alpha (for procedural justice alpha is 0.75, for distributive justice 0.98, for interpersonal justice 0.91 and informational justice 0.78). The bonus satisfaction survey (Sturman & Short, 2003) returns an alpha of 0.86, which is acceptable. The turnover intention scale (Ti-6, Bothma & Roodt, 2013) returns an alpha of 0.89. Though minor increases in reliability can be achieved by removing items in both the bonus satisfaction survey and the turnover intention scale, as the reliability is already acceptable and removing items will only lead to a minor increase in Cronbach's alpha, the decision was made to maintain the original item structure of the measure. All analyses are therefore based on participants' responses to the full questionnaire (as shown in Table 8).

### 5.2. Descriptive Statistics

The means, standard deviations, skewness and kurtosis of both demographic data and the variables under investigation across all participants (N = 599) are reported in Table 10. Considering all participants, 54% are male (N = 323) and 46% are female (N = 276). The salaries paid to participants return a wide range; the mean salary paid to participants is

£59,300 (SD = 21,600), the minimum amount paid is £14,000, and the maximum is £124,000. The median value for salary is £56,000, indicating that as the median and mean are reasonably close (in relation to the range) salary is close to a symmetrical distribution. Due to a slight positive skew frequencies are higher at lower salaries than higher salaries, which is perhaps to be expected given the percentage of those in organisations being paid more than £59,300 compared to those paid less than £59,300 (those earning more than £50,000 are in the top 5% of earners; Office of National Statistics, 2017).

The mean bonus amount paid to participants is £5,310, representing 8.95% of the mean salary (SD = 2.08). The range of bonus paid is £1,000 to £26,000. Bonus amounts exhibit a strong positive kurtosis. Whilst a natural heuristic in thinking of bonuses may be to associate higher pay with higher bonuses, an interrogation of the 5 participants with the highest bonus payment (in terms of amount, rather than percentage of salary), shows an average salary of £65,400, and an average bonus of £23,400 (35.8%). Considering the percentage of salary which is paid as a bonus (mean = 9.37%, SD = 7.04), there is a similarly shaped distribution as for bonus pay (in terms of amount). There is a high standard deviation indicating a large variation of bonus paid as a percentage of salary in the participant group.

Table 10.  
*Descriptive Statistics*

	Min Statistic	Max Statistic	Median Statistic	Mean Statistic	Std. Dev Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Sex	1	2	1.00	1.46	.50	.16	.10	-1.98	.20
Position	1	2	2.00	1.66	.47	-.68	.10	-1.54	.20
Salary	14	124	56.00	59.30	21.60	.50	.10	-.35	.20
Bonus	1	26	4.00	5.31	3.93	2.08	.10	5.05	.20
Percentage	2.11	67.65	7.14	9.37	7.04	3.06	.10	13.87	.20
R1 – same level	1	5	4.00	3.76	1.44	-.81	.10	-.88	.20
R2 – other employers	1	5	2.00	2.10	1.21	.89	.10	-.37	.20
R3 – company promise	1	5	4.00	3.09	1.74	-.11	.10	-1.77	.20
R4 – cost of living	1	4	1.00	1.53	.81	1.74	.10	2.67	.20
R5 – previous jobs	1	5	2.00	2.40	1.16	.226	.10	-1.30	.20
R6 – self worth	1	5	4.00	3.52	1.41	-.76	.10	-.83	.20
R7 – higher job level	1	5	4.00	3.77	1.27	-.96	.10	-.27	.20
R8 – lower job level	1	5	2.00	2.58	1.10	.54	.10	-.62	.20
R9 – friends pay	1	5	2.00	2.09	1.20	.76	.10	-.85	.20
Procedural Justice	1.57	5.00	3.14	3.15	.64	.36	.10	-.31	.20
Distributive Justice	1.00	5.00	2.50	3.04	1.13	.30	.10	-1.49	.20
Interpersonal Justice	1.75	5.00	4.00	4.10	.73	-1.05	.10	1.51	.20
Informational Justice	1.40	5.00	3.20	3.13	.72	.30	.10	-.37	.20
Organisational Justice	2.00	5.00	3.25	3.35	.63	.36	.10	-.67	.20
Bonus Satisfaction	1.50	5.00	2.50	2.94	.92	.52	.10	-.85	.20
Turnover Intention	1.00	5.00	3.00	3.08	.85	-.20	.10	-.78	.20

N = 599

Interrogating the means, standard deviations and the shape of the probability distribution for the scales within the measure allows for several direct observations to be drawn using the data in Table 10. These can be summarised for each of the groups of variables in the research (i.e. referents, justice, bonus satisfaction and turnover intention). Considering firstly the referents chosen by the participants:

- R7 - 'What others in this company at a higher job level than mine are paid' returned the highest mean (mean = 3.77, SD = 1.27), with 75.2% of participants answering 'important' or 'very important' to the importance of this choice of referent to perceptions of fairness. This is followed by
- R1 - 'What other people in this company at my job level are paid' (mean = 3.76, SD = 1.44), with 71.1% of participants answering 'important' or 'very important', and
- R6 - 'What I think I'm worth' (mean = 3.52, SD = 1.41), with 69.6% of participants answering 'important' or 'very important' to the importance of this choice of referent to perceptions of fairness.

The referents participants tended to disagree with as a comparison point are:

- R4 - 'The cost of living' (mean = 1.53, SD = 0.81), with 91.9% of participants selecting 'not important' or 'less important' to perceptions of fairness,
- R9 - 'My friend's pay' (mean = 2.09, SD = 1.20), with 72.5% selecting 'not important' or 'less important', and
- R2 - 'What other employers are paying for my kind of work' (mean = 2.10, SD = 1.21), with 72.8% of participants 'not important' or 'less important' of this choice of referent to perceptions of fairness.

Considering other referents included in the research offers perhaps a more nuanced view of selection rather than simply considering the numbers of participants who find these referents important to their fairness perceptions. Consider for instance R3 - 'What this company promised it would pay me' (mean = 3.09, SD = 1.74). By interrogating the histogram for this referent we can see that participants are broadly split, and that the histogram is somewhat symmetrical, but with 33.1% of participants choosing 'not important' and 34.9% choosing 'very important'. The shape of the distribution is clear if considered in light of the dynamic of the employment relationship and may indicate the frequency in which bonus promises are made by organisations to employees. It is unlikely that an employee would have a referent

point of a promise if no promise was made, however if a promise was made this would naturally form the basis of a trust relationship between the employer and employee. The frequency histograms for each referent selection are shown in Appendix 2, Figure 40. This is important information in pursuant of testing hypothesis 5a and 5b (a. multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. b. The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level), which will be considered later in this section. The remaining means and standard deviations, along with data for skewness and kurtosis are detailed in Table 10.

Turning to organisational justice, bonus satisfaction and turnover intention the scale means and probability distributions can be investigated to draw direct observations.

- The strongest perception of justice returned by participants is interpersonal justice (mean = 4.10, SD = .73), followed by procedural justice (mean = 3.15, SD = .64), informational justice (mean = 3.13, SD = .72) and distributive justice (mean = 3.04, SD = 1.13). Perceptions of justice are generally positive for interpersonal justice with perceptions of other forms of justice close to the mid-point of the scale. There is greater variation in distributive justice than other justice scales.
- The mean returned for bonus satisfaction, unlike justice scales, is slightly negative in terms of participants' perceptions (mean = 2.94, SD = .92). The distribution of this measure is positively skewed, and the standard deviation indicates a large variation in the participant group concerning their levels of satisfaction with their bonus.
- The mean returned for turnover intention is slightly higher and positive (mean = 3.08, SD = .84) with a smaller standard deviation than both distributive justice and bonus satisfaction.
- There is a slight negative skew to the data, and the kurtosis value returned for both bonus satisfaction and turnover intention is negative and indicates a 'light-tailed' dataset.

Frequency histograms for each of the organisational justice scales (procedural, distributive, interpersonal and informational) are shown in Appendix 2, Figure 39.

### 5.3. The underlying factor structure of the questionnaire

To investigate the underlying structure of the composite questionnaire, data collected from all 599 participants were subjected to principle axis factoring with promax rotation. Prior to running the principle axis factoring, examination of the data indicated that each variable considered was sufficiently normally distributed. The factor analysis was conducted on all items of the questionnaire for two purposes. Firstly, consistent with the procedures of Blau (1994) and Goodman (1974), performing a factor analysis on referent selection (using referents 1-9) can indicate whether participants select multiple referents and can also indicate which referents tend to be grouped together when making comparisons. Secondly, using this procedure this thesis aims to investigate the underlying structure of the battery of measures combined to form the combined cross-sectional questionnaire. A review of the measures used would suggest the proposed four-factor structure of the organisational justice survey (procedural, distributive, informational and interactional justice), and the single-factor structures of each of the bonus satisfaction survey (BSS) and the turnover intention scale (TIS-6) would combine to give us 6 factors. Conducting an exploratory factor analysis will indicate whether this is the case.

Following performance of the principle axis factoring, twelve factors (with eigenvalues exceeding 1) were identified as underlying the 39 items. In total these factors accounted for around 64% of the variance in the questionnaire data. Oblique (promax) rotation of the factors yielded the factor structure given in Table 11. The first factor accounted for 27% of the variance in the data, the second accounted for 7% and the third for 5%. The remaining variance is provided in Table 11. Although there are twelve factors, these can be grouped based on the data they represent. Seven of the components returned by the analysis (components 1, 2, 3, 4, 6, 10 and 12) relate to the measures present in the questionnaire (the OJS, BSS and TIS-6). Three of the components (components 5, 8 and 11) returned by the analysis relate to referent selection. The remaining two components (components 7 and 9) relate to bonus amount and demographic variables. It is interesting to note that there is some variance in the underlying structure of the composite measure of the OJS, BSS and TIS-6. The BSS and Distributive Justice factors load heavily onto component 1, with this component appearing to measure bonus satisfaction, as we would broadly define it. The factor structure related to these two measures and how they may to a single component requires more investigation. Turnover intention items load onto component 2, with component 2 solely representing items from the TIS-6 measure. Interpersonal justice items load heavily onto component 3. This component can therefore be safely aligned to interpersonal justice. Whilst if the remaining factor structure of the Colquitt (2001) OJS



measure is to be followed we would expect two remaining justice factors, one related to informational justice, and one procedural justice, in fact the remaining factor structure in the analysis yields four components, with two related to procedural justice (components 4 and 10), and two related to informational justice (components 6 and 12). On further investigation of the items aligned to each component it can be seen that component 4 represents fairness and standard of procedures (fairness), and component 10 the ability to have influence over the outcomes (voice). Similarly, component 6 represents the sufficient explanation of procedures (clarity), and component 12 contains items predominantly focused on efficacy of communication (communication). The initial measure each item is taken from is also shown in Table 11 to indicate the primary source of the items which load most heavily onto each factor.

#### 5.3.1. Factor Structure of Bonus Satisfaction and Distributive Justice

As items related to distributive justice and bonus satisfaction each load onto a single component in the exploratory factor analysis, further investigation was conducted to ensure discriminant validity of these measures. Each of the four items of the distributive justice measure (DJ1 to DJ4) and the four items of the bonus satisfaction survey (BSS1 to BSS4) were subjected to principle axis factoring with promax rotation, with two fixed factors to extract. Inspecting the factor matrix (shown in Table 12) having forced the items to load onto two factors provides a clearer understanding of the discriminant validity. The analysis shows that the factor structure for the two measures is relatively distinct, with the exception of the first item of the bonus satisfaction survey (I am satisfied with my most recent bonus). This item loads strongly to both factors (though the item slightly favours an alignment with the factor associated with distributive justice). In this case there is not compelling evidence to change the item structure of the measures, though it is worth noting that the first item of the bonus satisfaction measure could effectively sit within each of the distributive justice or bonus satisfaction measures. This may identify a limitation in the analysis if certain aspects of distributive justice (e.g. DJ4; my bonus is justified, given my performance) and certain aspects of bonus satisfaction (BSS1; I am satisfied with my most recent bonus) load to a similar degree on the same factor. It is perhaps a little more comforting to note that the remaining items each load more distinctly onto one of these factors, and so provide sufficient support for the existence of two separate constructs being measured in distributive justice and bonus satisfaction.

Table 11.

*Oblique factor loading matrix for all items in the questionnaire*

No.	Measure Item	Question	Components											
			1	2	3	4	5	6	7	8	9	10	11	12
18 <sup>a</sup>	DJ2	My bonus is appropriate for the work I have completed	0.97											
17 <sup>a</sup>	DJ1	My bonus reflects the effort I have put into my work	0.96											
30 <sup>b</sup>	BSS1	I am satisfied with my most recent bonus	0.96											
19 <sup>a</sup>	DJ3	My bonus reflects what I have contributed to the organisation	0.95											
20 <sup>a</sup>	DJ4	My bonus is justified, given my performance	0.92											
33 <sup>b</sup>	BSS4	I am satisfied with how my bonus is determined	0.84											
31 <sup>b</sup>	BSS2	I am satisfied with the influence that others have on my bonus	0.81											
38 <sup>c</sup>	TIS5	To what extent is your current job satisfying your personal needs?		-0.86										
35 <sup>c</sup>	TIS2	How often have you considered leaving your job?		-0.83										
39 <sup>c</sup>	TIS6	How often do you look forward to another day at work?		-0.83										
37 <sup>c</sup>	TIS4	How likely are you to accept another job at the same compensation level should it be offered to you?		-0.82										
36 <sup>c</sup>	TIS3	How often do you dream about getting another job that will better suit your personal needs?		-0.80										
34 <sup>c</sup>	TIS1	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?		-0.41										
22 <sup>a</sup>	IntJ2	I have been treated with dignity			0.90									
23 <sup>a</sup>	IntJ3	I have been treated with respect			0.89									
24 <sup>a</sup>	IntJ4	The bonus issuer has refrained from improper remarks or comments			0.85									
21 <sup>a</sup>	IntJ1	I have been treated in a polite manner			0.84									
13 <sup>a</sup>	ProcJ4	The bonus procedures have been free of bias				0.91								
14 <sup>a</sup>	ProcJ5	The procedures been based on accurate information				0.82								
16 <sup>a</sup>	ProcJ7	The procedures have upheld ethical and moral standards				0.75								
12 <sup>a</sup>	ProcJ3	The bonus procedures been applied consistently				0.70								
7	Referent7	What others in this company at a higher job level than mine are paid					0.85							
1	Referent1	What other people in this company at my job level are paid					0.82							
8	Referent8	The pay of others in this company who are below my job level					0.59							

3	Referent3	What this company promised it would pay me					-0.53							
6	Referent6	What I think I am worth					0.32							
27 <sup>a</sup>	InfoJ3	Explanations regarding the procedures were reasonable						0.98						
26 <sup>a</sup>	InfoJ2	Procedures have been explained thoroughly						0.92						
		Bonus Percentage							0.94					
		Bonus Sum							0.91					
5	Referent5	What I have been paid in previous jobs								0.77				
9	Referent9	My friends' pay								0.57				
4	Referent4	The cost of living								0.52				
		Earnings									0.99			
		Position									-0.54			
11 <sup>a</sup>	ProcJ2	I have had influence over the bonus arrived at by those procedures										0.65		
15 <sup>a</sup>	ProcJ6	I have been able to appeal the bonus arrived at by those procedures										0.53		
10 <sup>a</sup>	ProcJ1	I have been able to express my views and feelings during the procedure										0.48		
2	Referent2	What other employers are paying for my kind of work											0.75	
29 <sup>a</sup>	InfoJ5	Communications have been tailored to individuals' specific needs												0.64
28 <sup>a</sup>	InfoJ4	Details have been communicated in a timely manner												0.55
25 <sup>a</sup>	InfoJ1	The bonus issuer has been candid in communications with me												0.54
32 <sup>b</sup>	BSS3	I am satisfied with the bonuses I have typically received in the past												0.44

Percentage of Variance accounted for by each component:

27.3	6.9	5.3	4.2	3.8	3.5	3.4	3.0	2.5	1.7	1.6	1.2
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Note: N = 599

a – item taken from OJS; b – item taken from BSS, c – item taken from TIS-6

Measure item refers to the item in the original measures from which the item is taken with DJ – distributive justice, ProcJ – procedural justice, IntJ – interpersonal justice, InfoJ – informational justice, BSS – bonus satisfaction survey, TIS – turnover intention survey, Referent – choice of referent

Table 12.

*Oblique factor loading matrix for distributive justice and bonus satisfaction forced to two factor structure*

No.	Measure Item	Question	1	2
17 <sup>a</sup>	DJ1	My bonus reflects the effort I have put into my work	0.95	0.10
19 <sup>a</sup>	DJ3	My bonus reflects what I have contributed to the organisation	0.92	0.16
18 <sup>a</sup>	DJ2	My bonus is appropriate for the work I have completed	0.90	0.28
30 <sup>b</sup>	BSS1	I am satisfied with my most recent bonus	0.83	0.80
20 <sup>a</sup>	DJ4	My bonus is justified, given my performance	0.81	0.31
32 <sup>b</sup>	BSS3	I am satisfied with the bonuses I have typically received in the past	0.36	0.84
33 <sup>b</sup>	BSS4	I am satisfied with how my bonus is determined	0.13	0.97
31 <sup>c</sup>	BSS2	I am satisfied with the influence that others have on my bonus	0.22	0.70

Note: N = 599

a – item taken from OJS; b – item taken from BSS, c – item taken from TIS-6

Measure item refers to the item in the original measures from which the item is taken with DJ – distributive justice, ProcJ – procedural justice, IntJ – interpersonal justice, InfoJ – informational justice, BSS – bonus satisfaction survey, TIS – turnover intention survey, Referent – choice of referent

Table 13.

*Correlations between variables along with significance level*

	Sex	Position	Salary	Bonus	Perc	R1	R2	R3	R4	R5	R6	R7	R8	R9	ProcJ	DistJ	InterJ	InfoJ	Org J	BSS	TIS-6
Sex	1																				
Position	.14**	1																			
Salary	-.22**	-.56**	1																		
Bonus	-.17**	-.36**	.49**	1																	
Perc	-.06	-.05	-.06	.80**	1																
R1	-.09*	-.04	.04	.07	.06	1															
R2	-.10*	-.09*	.06	.01	-.02	-.06	1														
R3	.01	-.07	-.00	.01	.03	-.46**	.34**	1													
R4	-.01	.01	-.03	.02	.05	-.31**	.13**	.07	1												
R5	-.02	-.01	.01	-.02	-.04	-.26**	.35**	.06	.40**	1											
R6	-.15**	.01	.03	.03	.01	.16**	.27**	-.07	-.02	.32**	1										
R7	-.09*	-.02	.00	.03	.03	.76**	-.01	-.34**	-.30**	-.18**	.28**	1									
R8	-.04	.02	-.05	.03	.07	.47**	.04	-.26**	-.07	.06	.19**	.53**	1								
R9	.07	.03	.02	-.00	-.01	-.29**	.21**	.09*	.33**	.44**	.04	-.31**	-.04	1							
ProcJ	.04	-.00	-.01	.07	.10*	-.05	.04	.18**	-.12**	-.02	.07	.00	-.06	-.07	1						
DistJ	.01	.02	-.04	.01	.05	-.09*	.03	.21**	-.18**	-.16**	.06	-.04	-.10*	-.13**	.51**	1					
InterJ	-.02	.05	.07	.10*	.07	.03	.01	-.00	-.09*	-.15**	.11**	.10*	-.03	-.14**	.36**	.34**	1				
InfoJ	.02	.02	-.02	.06	.11*	-.06	.01	.20**	-.08	-.10*	.11**	.03	-.04	-.05	.63**	.53**	.42**	1			
OrgJ	-.03	.04	-.02	.07	.11**	-.04	.03	.21**	-.15**	-.15**	.12**	.00	-.08	-.13**	.78**	.84**	.66**	.82**	1		
BSS	.01	-.01	-.02	.05	.09*	-.07	.03	.25**	-.21**	-.18**	.04	-.03	-.13**	-.19**	.62**	.89**	.38**	.62**	.85**	1	
TIS-6	.00	.03	.03	-.06	-.11**	-.09*	-.01	-.11**	.19**	.16**	-.06	-.16**	-.03	.16**	-.47**	-.55**	-.38**	-.46**	-.62**	-.59**	1

N = 599, \*p &lt; .05., \*\*p &lt; .01.

#### 5.4. Relationships between bonus pay, justice, bonus satisfaction and turnover intention

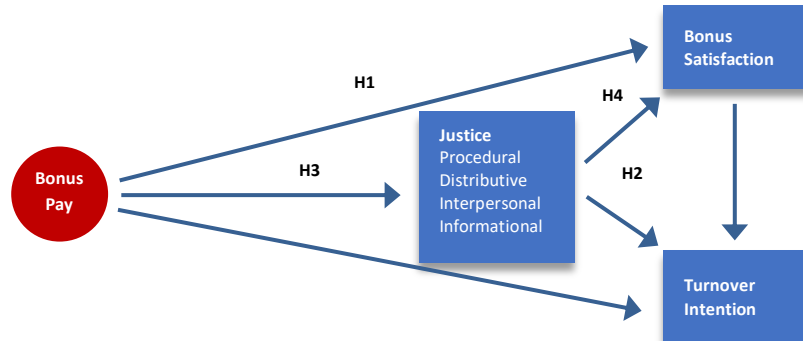


Figure 12. Outline of the first figure describing the relationships between bonus pay, organisational justice, bonus satisfaction and turnover intention.

Performing a correlation analysis (with results shown in Table 13, along with significance levels) can provide some indication of the interactions between the variables under investigation and will provide some guidance for areas of focus in later analyses. There are significant relationships between gender, position, salary and bonus amount, with gender weakly positively related to position ( $r = .14$ ,  $p < .01$ ) and weakly negatively related to salary ( $r = -.22$ ,  $p < .01$ ) and bonus amount ( $r = -.17$ ,  $p < .01$ ). This indicates that there are fewer women in management positions (a finding confirmed by t-test results in later analysis), and that women are both paid less and have smaller bonuses on average than men in this study. Position has a moderate negative relationship with both salary ( $r = -.56$ ,  $p < .01$ ) and bonus ( $r = -.36$ ,  $p < .01$ ) indicating that managers are paid more and receive higher bonuses than non-managers. Salary is moderately positively related to bonus ( $r = .49$ ,  $p < .01$ .) indicating that in general as salary increases in value so does bonus pay.

There are other interesting findings related to both salary and bonus pay. Other than with bonus amount, salary is not significantly correlated with any of the variables under investigation (referent selection, justice, satisfaction or turnover intention). Bonus amount is significantly related to bonus as a percentage of salary as would be expected ( $r = .80$ ,  $p < .01$ ), and interpersonal justice (though this positive relationship is weak;  $r = .10$ ,  $p < .05$ ). Bonus paid as a percentage of salary offers us perhaps an alternative view of these relationships as it views bonus pay in a different context in terms of its contribution to total

pay. There are significant positive relationships between this variable and organisational justice ( $r = .11$ ,  $p < .01$ ), procedural justice ( $r = .10$ ,  $p < .01$ ), informational justice ( $r = .11$ ,  $p < .05$ ) and bonus satisfaction ( $r = .09$ ,  $p < .05$ ), though as can be seen these relationships are weak. There is a significant negative relationship between bonus as a percentage of salary and turnover intention ( $r = -.11$ ,  $p < .01$ ) indicating that while bonus as a percentage of salary increases, turnover intention decreases, though this relationship is also weak.

5.5. Testing Hypothesis 1: Bonus amount will demonstrate a linear relationship with bonus satisfaction.

Plotting bonus amount (in terms of absolute amount) and bonus satisfaction on a chart enables testing of the relationship between the two variables to see whether there is support for this hypothesis. Results shown in Table 13 demonstrate that the relationship between bonus amount in absolute terms and bonus satisfaction is weak and non-significant ( $r = .05$ ,  $p > .05$ ). Interrogating Figure 13 demonstrates that there is difficulty in identifying any relationship between bonus amount (measured in thousands of pounds) and bonus satisfaction (measured by the bonus satisfaction scale; Sturman & Short, 2000), let alone drawing a linear relationship through the plots. Rather than support either the W-shaped or the inverse U-shaped relationship found by Gneezy (2004) and Pokorny (2008) respectively, investigating the scatter plot in Figure 13 does not offer any indication of a relationship or pattern. Whilst the drawing of an interpolation line is possible for this relationship, a line of best fit is not.

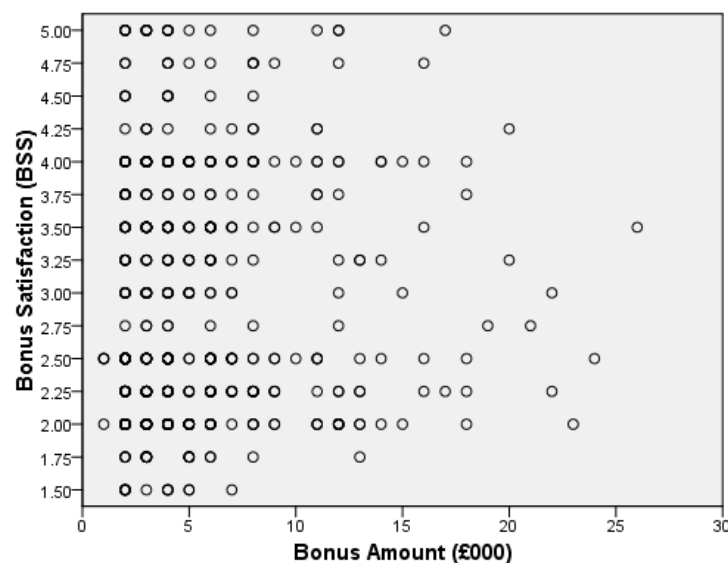


Figure 13. Scatter plot showing bonus satisfaction (BSS, Y-Axis) against Bonus as an absolute amount (Measured in £ 000, X Axis)

In a similar way the relationship between bonus amount as a percentage of salary and bonus satisfaction can also be investigated. The relationship between these two variables is stronger than the relationship between bonus as an absolute amount and bonus satisfaction, though it is still weak ( $r = .09$ ,  $p < .05$ ). This relationship does however reach traditional levels of significance. A plot of bonus as a percentage of salary (%), X-axis), and bonus satisfaction (measured by the bonus satisfaction scale, Sturman & Short, 2000, Y-axis) again offers little support in understanding the direction of the relationship let alone indications of linearity. This is shown in the scatter plot in Figure 14. Bonus amount does not demonstrate a linear relationship, or any relationship, therefore the results do not provide support for hypothesis 1 and the null hypothesis cannot be rejected. Although there are more cases which cluster around the bonus level of 5-10 percent of salary (consistent with median level bonus pay in this research) the distribution of participants across bonus satisfaction scores is broad, and appears to be independent of bonus amount, either in absolute terms or when considered as a percentage of salary. Relationships between demographic variables and justice, bonus satisfaction and turnover intention also reveal some interesting analyses. Justice, bonus satisfaction and turnover intention are not significantly related to gender, position or salary. These relationships can be further tested by applying an independent samples t-test to the results, which will be summarised in a later section.

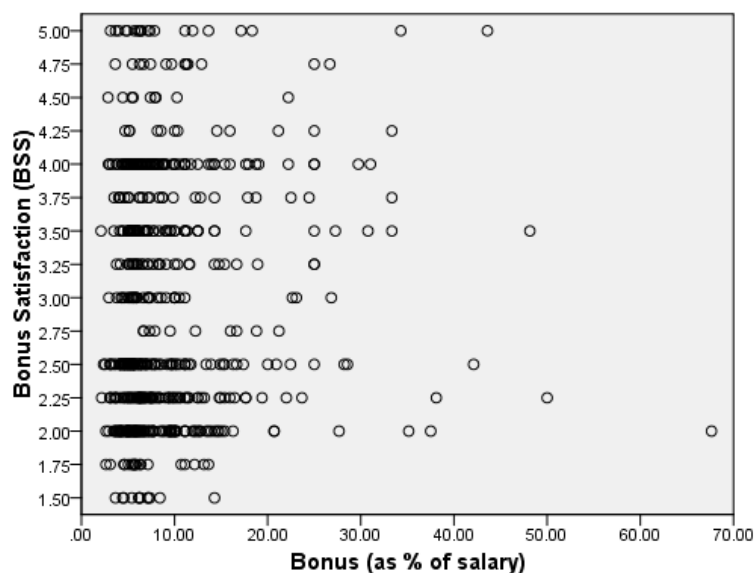


Figure 14. Scatter plot showing bonus satisfaction (BSS, Y-Axis) against Bonus as a percentage of salary (Measured in %, X Axis)



## 5.6. The role of bonus amount and organisational justice in bonus satisfaction appraisals

To understand how much of the variance in the dependent variable of bonus satisfaction is accounted for by each predictor variable, beyond that already accounted for by other predictor variables, hierarchical multiple regression analysis was employed. Assumptions and data checks for normal distribution, univariate outliers, normality, linearity and homoscedasticity of residuals were met, and multivariate outliers and multicollinearity were not of concern. Each of the variables was entered into the hierarchical regression model in an order consistent with the literature discussed in the review, which suggests a pathway between pay, justice and subsequent satisfaction appraisals. Table 13 demonstrates correlations between gender, position, salary and bonus, therefore these variables are added in the first step (and therefore are controlled for in subsequent steps). In the next step bonus pay is added, followed by the individual scales of procedural justice (step 3), distributive justice (step 4), interpersonal justice (step 5) and informational justice (step 6) in turn. The results of each step in the model are detailed in Table 14. When all variables are added into the hierarchical multiple regression model the analysis returns an  $R^2$  of 0.830 ( $F(8,590) = 360.872.898, p < 0.001$ ). The predictor variable with the largest standardised regression estimate when all variables are added to the model is distributive justice ( $\beta = 0.72, p < 0.01$ ), followed by procedural justice ( $\beta = 0.17, p < 0.01$ ) and informational justice ( $\beta = 0.13, p < 0.01$ ). These three variables are the only predictor variables to reach traditional levels of significance. The effect size, as calculated by Cohen's  $f^2$  is small.

To understand the differential variance accounted for by procedural and distributive justice (when one variable is added having controlled for another), the same analysis was conducted with steps three and four reversed, so that distributive justice was added to the regression equation before procedural justice. This was done to fully test the differential effects of both procedural and distributive justice. Steps one and two return identical results to those in the analysis detailed above. In step three of the analysis distributive justice was added to the regression equation and accounted for an additional significant 77.5% of the variance in bonus satisfaction,  $\Delta R^2 = 0.775, \Delta F(1, 593) = 2110.355, p < .001$ . In step four procedural justice was added to the equation and accounted for an additional significant 4% of the variance in bonus satisfaction,  $\Delta R^2 = 0.039, \Delta F(1, 592) = 129.769, p < .001$ . The remaining two steps (the addition of interpersonal justice and information justice) return the same analysis as shown in Table 14. This would indicate that distributive justice and procedural justice together account for 81.5% of the variance in bonus satisfaction, with 77.5% of the variance accounted for by distributive justice. These differences in the relative effects of distributive and procedural justice would be missed without reversing these steps.

Table 14.

*Unstandardized (B) and Standardised ( $\beta$ ) regression coefficients for each predictor in a hierarchical multiple regression model predicting bonus satisfaction*

Variable	B[95% CI]	SE B	$\beta$	$\Delta R^2$	$\Delta F$ (df)
Step 1					
Gender	-.059 [-.210, .092]	.077	-.032		
Position	-.038 [-.227, .151]	.096	-.019		
Salary	-.002 [-.006, .002]	.002	-.046	0.002	0.410 (3,595)
Step 2					
Gender	-.045 [-.197, .107]	.077	-.025		
Position	-.018 [-.208, .172]	.097	-.009		
Salary	-.003 [-.007, .001]	.002	-.068		
Bonus (Absolute amount)	-.018 [-.002, .021]	.010	.039	0.005	3.034 (1,594)
Step 3					
Gender	-.054 [-.172, .063]	.060	-.030		
Position	-.027 [-.174, .120]	.075	-.014		
Salary	-.002 [-.005, .002]	.002	-.037		
Bonus (Absolute amount)	.002 [-.013, .018]	.008	.011		
Procedural justice	.907 [ .818, .996]**	.045	.635	0.400	399.385 (1,593)
Step 4					
Gender	-.017 [-.081, .048]	.033	-.009		
Position	-.041 [-.122, .040]	.041	-.021		
Salary	.000 [-.002, .002]	.001	-.003		
Bonus (Absolute amount)	.004 [-.004, .013]	.004	.019		
Procedural justice	.334 [ .277, .392]**	.029	.234		
Distributive justice	.617 [ .585, .650]**	.017	.760	0.415	1374.170 (1,592)
Step 5					
Gender	-.015 [-.079, .050]	.033	-.008		
Position	-.048 [-.129, .033]	.041	-.025		
Salary	.000 [-.002, .002]	.001	-.007		
Bonus (Absolute amount)	.004 [-.005, .013]	.004	.017		
Procedural justice	.322 [ .263, .381]**	.030	.226		
Distributive justice	.611 [ .578, .645]**	.017	.753		
Interpersonal justice	.042 [-.006, .089]	.024	.033	0.001	2.999 (1,591)
Step 6					
Gender	-.012 [-.075, .051]	.032	-.007		
Position	-.045 [-.125, .034]	.040	-.023		
Salary	-.000 [-.002, .002]	.001	-.001		
Bonus (Absolute amount)	-.004 [-.005, .012]	.004	.015		

Procedural justice	.245 [ .180, .309]**	.033	.171		
Distributive justice	.587 [ .553, .621]**	.017	.722		
Interpersonal justice	.010 [-.038, .058]	.024	.008		
Informational justice	.161 [ .101, .221]**	.030	.126	0.008	27.974 (1,590)

Note:  $N = 599$ .  $CI$  = confidence interval,  $R^2 = 0.830$

Dependent Variable: Bonus Satisfaction (BSS)

\* $p < .05$ . \*\* $p < .01$ .

5.7. Testing hypothesis 4: Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components.

The thesis can investigate this hypothesis by considering the standardised regression coefficients in Table 14 for the relationships between individual scales of justice (as independent variables) and bonus satisfaction (as the dependent variable). The analysis shows that the strongest standardised estimate between bonus satisfaction and justice components is distributive justice ( $\beta = 0.72$ ,  $p < 0.01$ ), followed by procedural justice ( $\beta = 0.17$ ,  $p < 0.01$ ) and informational justice ( $\beta = 0.13$ ,  $p < 0.01$ ) which both have markedly weaker relationships. Distributive justice also accounts for a significant 77.5% of the variance in bonus satisfaction ( $\Delta R^2 = 0.775$ ,  $\Delta F(1, 593) = 2110.355$ ,  $p < .001$ ), with procedural justice accounting for the next highest proportion at 4% ( $\Delta R^2 = 0.039$ ,  $\Delta F(1, 592) = 129.769$ ,  $p < .001$ ). Though as the thesis will demonstrate in the next section the relationships between justice scales and turnover intention are more comparable, for the case where bonus satisfaction is the dependent variable then distributive justice is a far stronger predictor than other justice scales, thus providing support for hypothesis 4.

## 5.8. The role of bonus amount, organisational justice and bonus satisfaction in turnover intention appraisals

To estimate the proportion of variance in turnover intention that can be accounted for by bonus amount, organisational justice (in the scale forms of distributive, procedural, interpersonal and informational) and bonus satisfaction a hierarchical multiple regression was performed (with results shown in Table 15). As in previous analysis, prior to interpreting the results several assumptions were evaluated. First, stem and leaf plots and boxplots indicated that each variable in the regression is close to being normally distributed, and free from univariate outliers. Second, inspection of the normal probability plot of standardised residuals as well as the scatterplot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, multivariate outliers were interrogated by considering Mahalanobis distance. Initially the critical  $\chi^2$  for  $df = 7$  (at  $\alpha = 0.001$ ) of 24.322 was exceeded by 14 cases (with the maximum distance of 86.872). Subsequent analysis and removal of cases in order to achieve a data set where multivariate outliers were not of concern left  $N = 559$ . Fourth, relatively high tolerances for both predictors in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcome of the regression analysis.

Similar to the analysis where bonus satisfaction is the dependent variable, each of the variables was entered into the hierarchical regression model consistent with a pathway between pay, justice, satisfaction and subsequent turnover intention appraisals. Once again gender, position and salary variables are added in the first step (and therefore are controlled for in subsequent steps). This is followed in order by bonus amount (step 2) and then the scales of distributive procedural justice (step 3), procedural justice (step 4), interpersonal justice (step 5), informational justice (step 6) and bonus satisfaction (step 7). The results of each step in the model are detailed in Table 15. When all predictor variables are added into the hierarchical multiple regression model together they explain 41% of the variance in turnover intention,  $R^2 = 0.410$  ( $F(9,589) = 45.541$ ,  $p < 0.001$ ). To understand the differential variance accounted for by procedural and distributive justice (when one variable is added having controlled for another), the same analysis was conducted with steps three and four reversed, so that procedural justice was added to the regression equation before distributive justice. This was done to fully test the differential effects of both procedural and distributive justice on turnover intention. Steps one and two return identical results to those in the analysis detailed above. In step three of the analysis procedural justice was added to the regression equation and accounted for an additional significant 22.8% of the variance in

turnover intention,  $\Delta R^2 = 0.228$ ,  $\Delta F(1, 593) = 177.037$ ,  $p < .001$ . In step four distributive justice was added to the equation and accounted for an additional significant 12.5% of the variance in turnover intention,  $\Delta R^2 = 0.125$ ,  $\Delta F(1, 592) = 116.627$ ,  $p < .001$ . The remaining two steps (the addition of interpersonal justice and information justice) return the same analysis as shown in Table 15. This would indicate that distributive justice and procedural justice together account for 35.3% of the variance in turnover intention, with 30.5% of the variance accounted for by distributive justice. Bonus satisfaction, in comparison, accounts for 1.7% of the variance once the effects of justice have been taken into account. The predictor variable with the largest standardised regression estimate when all variables are added to the model is bonus satisfaction ( $\beta = -0.31$ ,  $p < 0.01$ ), followed by interpersonal justice ( $\beta = -0.17$ ,  $p < 0.01$ ), distributive justice ( $\beta = -0.14$ ,  $p < 0.05$ ), and procedural justice ( $\beta = -0.13$ ,  $p < 0.01$ ). These four variables are the only predictor variables to reach traditional levels of significance. The effect size, as calculated by Cohen's  $f^2$  is small.

Table 15.

*Unstandardized (B) and Standardised ( $\beta$ ) regression coefficients for each predictor in a hierarchical multiple regression model predicting turnover intention*

Variable	B[95% CI]	SE B	$\beta$	$\Delta R^2$	$\Delta F$ (df)
Step 1					
Gender	.054 [-.084, .193]	.071	.032		
Position	.103 [-.070, .277]	.088	.058		
Salary	.003 [-.001, .007]	.002	.078	0.005	0.959 (3,595)
Step 2					
Gender	.042 [-.097, .181]	.071	.025		
Position	.085 [-.089, .259]	.089	.048		
Salary	.004 [ .001, .008]	.002	.100		
Bonus (Absolute amount)	-.017 [-.036, .002]	.010	-.078	0.005	3.067 (1,594)
Step 3					
Gender	.021 [-.095, .136]	.059	.012		
Position	.098 [-.047, .243]	.074	.055		
Salary	.002 [-.001, .006]	.002	.061		
Bonus (Absolute amount)	-.011 [-.027, .004]	.008	-.053		
Distributive justice	-.413 [-.463, -.363]**	.025	-.554	0.305	264.306 (1,593)
Step 4					
Gender	.029 [-.083, .141]	.057	.017		
Position	.099 [-.041, .239]	.071	.056		
Salary	.002 [-.001, .005]	.002	.058		
Bonus (Absolute amount)	-.007 [-.022, .008]	.008	-.032		
Distributive justice	-.312 [-.368, -.255]**	.029	-.418		
Procedural justice	-.339 [-.439, -.239]**	.051	-.259	0.048	44.494 (1,592)
Step 5					
Gender	.019 [-.090, .128]	.056	.011		
Position	.136 [-.001, .274]	.070	.077		
Salary	.003 [ .000, .006]	.002	.079		
Bonus (Absolute amount)	-.005 [-.019, .010]	.008	-.021		
Distributive justice	-.281 [-.338, -.225]**	.029	-.377		
Procedural justice	-.278 [-.378, -.178]**	.051	-.212		
Interpersonal justice	-.217 [-.298, -.137]**	.041	-.188	0.029	28.096 (1,591)
Step 6					
Gender	.018 [-.091, .127]	.056	.011		
Position	.135 [-.003, .272]	.070	.076		
Salary	.003 [ .000, .006]	.002	.077		
Bonus (Absolute amount)	-.004 [-.019, .010]	.008	-.020		

	Distributive justice	-.270 [-.329, -.212]**	.030	-.363		
	Procedural justice	-.244 [-.356, -.132]**	.057	-.186		
	Interpersonal justice	-.203 [-.286, -.120]**	.042	-.176		
	Informational justice	-.071 [-.174, .033]**	.053	-.060	0.002	1.798 (1,590)
Step 7						
	Gender	.014 [-.093, .122]	.055	.009		
	Position	.122 [-.014, .258]	.069	.069		
	Salary	.003 [-.000, .006]	.002	.076		
	Bonus (Absolute amount)	-.003 [-.018, .011]	.007	-.016		
	Distributive justice	-.102 [-.202, -.003]*	.051	-.137		
	Procedural justice	-.174 [-.289, -.058]**	.059	-.132		
	Interpersonal justice	-.200 [-.283, -.118]**	.042	-.174		
	Informational justice	-.025 [-.129, .080]	.053	-.021		
	Bonus Satisfaction	-.287 [-.425, -.148]**	.070	-.312	0.017	16.526 (1,589)

Note:  $N = 559$ .  $CI$  = confidence interval,  $R^2 = 0.410$

Dependent Variable: Turnover Intention (TIS-6)

\* $p < .05$ . \*\* $p < .01$ .

### 5.9. Testing Hypothesis 2a and 2b: Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention.

The direction of the relationship between the scales of organisational justice and both bonus satisfaction and turnover intention can be tested by considering the estimates detailed in Tables 14 and 15. There are positive relationships between bonus satisfaction and distributive justice ( $\beta = 0.72, p < 0.01$ ), procedural justice ( $\beta = 0.17, p < 0.01$ ), interpersonal justice ( $\beta = 0.01, p > 0.05$ ) and informational justice ( $\beta = 0.13, p < 0.01$ ), though the relationship between bonus satisfaction and interpersonal justice does not reach traditional levels of significance. There are negative relationships between turnover intention and distributive justice ( $\beta = -0.14, p < 0.05$ ), procedural justice ( $\beta = -0.13, p < 0.01$ ), interpersonal justice ( $\beta = -0.17, p < 0.01$ ), and informational justice ( $\beta = -0.02, p > 0.05$ ), though the relationship between turnover intention and informational justice does not reach traditional levels of significance. The thesis therefore finds support for hypotheses 2a and 2b, as all scales of organisational justice are positively related to bonus satisfaction, and negatively related to turnover intention.

This finding is consistent with previous justice research considering pay, including the findings of Colquitt et al. (2013) and Tremblay et al. (2000). Typically, however, interpersonal and informational justice relationships are stronger in this research than in previous general pay research (though each in turn predicting bonus satisfaction and turnover intention uniquely). Each of these variables predicts bonus satisfaction (in the case of informational justice) and turnover intention (in the case of interpersonal justice) to a similar degree as procedural justice, whereas in previous research the relationship between procedural justice and outcomes tends to be stronger than that between interpersonal and informational scales of justice and outcomes. These differential relationship strengths between bonus pay and pay in general would seem to add support to the literature (including DeConink & Stilwell, 2004 and Welbourne, Balkin, & Gomez-Mejia, 1995) which points to a different appraisal mechanism between pay and bonus pay, both with incremental validity on satisfaction. The directions of these relationships are perhaps to be expected, as an increase in justice perceptions should be associated with an increase in satisfaction, and also with a decrease in turnover intention if theoretical models and outcomes of previous research are considered.



5.10. Testing hypothesis 3a and 3b: Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention

Traditional approaches to mediation such as the Sobel test (Baron & Kenny, 1986) argue that for mediation to occur a significant correlation must exist between the predictor variable (bonus amount/percentage) and the dependent variable (bonus satisfaction/turnover intention). Recent approaches such as Hayes (2017) employ bootstrapping however, which negates the requirement for this significant correlation. The analysis used in this thesis will therefore use this approach, employing the PROCESS macro for SPSS (version 3.4, Hayes, 2017) to understand the potential mediating effects of justice (in terms of organisational justice as an aggregated scale and the individual scales of procedural, distributive, interpersonal and informational justice) on the relationships between bonus amount (both in terms of absolute amount and as a percentage of salary) and both bonus satisfaction and turnover intention. These relationships are summarised in Figures 15 and 16, with standardised estimates for these relationships provided in Tables 16 and 17.

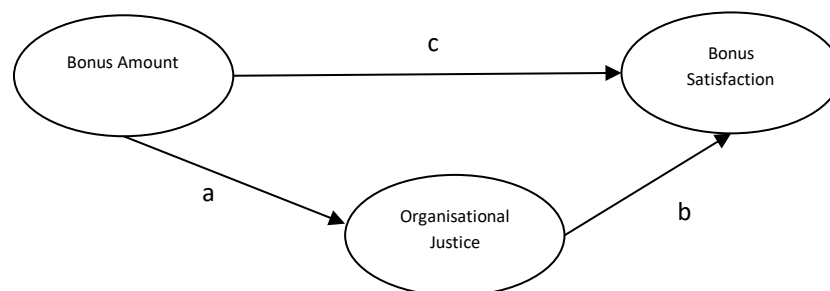


Figure 15. Paths considering bonus amount-justice-bonus satisfaction relationships

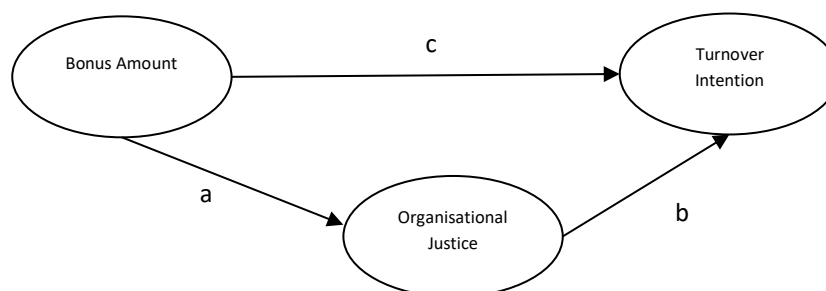


Figure 16. Paths considering bonus amount-justice-turnover intention relationships

Table 16.

*Direct, mediating and indirect standardised regression weights along with significance levels for relationships outlined in Figure 15.*

Mediation Relationship	R <sup>2</sup>	Coeff path a	Coeff path b	Coeff path c (Direct Effect)	Indirect Effect	Boot SE	BootLLCI (95%CI)	BootULCI (95% CI)	Comment
Bonus (% of salary) – Organisational justice – Bonus satisfaction	.718**	.106**	.847**	.003	.090	.036	.021	.161	Mediation
Bonus (£ 000) – Organisational justice – Bonus satisfaction	.720	.074	.848**	-.004	.063	.035	-.006	.131	No Mediation
Bonus (% of salary) – Distributive justice – Bonus satisfaction	.781**	.073	.881**	.028	.064	.037	-.005	.138	No Mediation
Bonus (% of salary) – Procedural justice – Bonus satisfaction	.407*	.087*	.633**	.038	.055	.030	-.005	.112	No Mediation
Bonus (% of salary) – Interpersonal justice – Bonus satisfaction	.146**	.076	.372**	.064	.028	.013	.003	.053	Mediation
Bonus (% of salary) – Informational justice – Bonus satisfaction	.397**	.103*	.627**	.028	.064	.025	.016	.114	Mediation
Bonus (£ 000) – Distributive justice – Bonus satisfaction	.782**	.019	.882**	.043*	.017	.034	-.048	.084	No Mediation
Bonus (£ 000) – Procedural justice – Bonus satisfaction	.405**	.083*	.636**	.006	.053	.026	.004	.104	Mediation
Bonus (£ 000) – Interpersonal justice – Bonus satisfaction	.143**	.096*	.375**	.023	.035	.016	.003	.068	Mediation
Bonus (£ 000) – Informational justice – Bonus satisfaction	.397**	.060	.628**	.022	.038	.024	-.007	.084	No Mediation

*Note: N=599, \*p < .05. \*\*p < .01. CI = 95, Number of bootstrap samples = 5000*

Table 17.

*Direct, mediating and indirect standardised regression weights along with significance levels for relationships outlined in Figure 16.*

Mediation Relationship	R <sup>2</sup>	Coeff path a	Coeff path b	Coeff path c (Direct Effect)	Indirect Effect	Boot SE	BootLLCI (95%CI)	BootULCI (95% CI)	Comment
Bonus (% of salary) – Organisational justice – Turnover intention	.386**	.106**	-.615**	-.045	-.065	.026	-.120	-.015	Mediation
Bonus (£ 000) – Organisational justice – Turnover intention	.385**	.074	-.618**	-.030	-.046	.026	-.098	.003	No Mediation
Bonus (% of salary) – Distributive justice – Turnover intention	.316**	.073	-.552**	-.070*	-.040	.023	-.086	.004	No Mediation
Bonus (% of salary) – Procedural justice – Turnover intention	.241**	.087*	-.480**	-.069	-.042	.022	-.085	.002	No Mediation
Bonus (% of salary) – Interpersonal justice – Turnover intention	.162**	.076	-.388**	-.081*	-.030	.014	-.057	-.002	Mediation
Bonus (% of salary) – Informational justice – Turnover intention	.218**	.103*	-.456**	-.064	-.047	.018	-.084	-.012	Mediation
Bonus (£ 000) – Distributive justice – Turnover intention	.315**	.019	-.556**	-.066	-.010	.022	-.054	.033	No Mediation
Bonus (£ 000) – Procedural justice – Turnover intention	.238**	.083*	-.483**	-.036	-.040	.020	-.079	-.002	Mediation
Bonus (£ 000) – Interpersonal justice – Turnover intention	.157**	.096*	-.390**	-.039	-.037	.017	-.070	-.004	Mediation
Bonus (£ 000) – Informational justice – Turnover intention	.216**	.060	-.459**	-.049	-.028	.017	-.063	.007	No Mediation

*Note: N=599, \*p < .05. \*\*p < .01. CI = 95, Number of bootstrap samples = 5000*

An analysis of the standardised estimates in Tables 16 and 17 delivers some interesting findings. While the results show that organisational justice (as an aggregated measure) mediates the relationships between bonus amount as a percentage of salary and both bonus satisfaction and turnover intention, it does not mediate the relationships between bonus amount as an absolute amount and either bonus satisfaction or turnover intention. There is therefore partial but not full support for hypotheses 3a and 3b. Organisational justice does mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention, but only when bonus as a percentage of salary is used as an independent variable. There is no support for a mediating relationship if bonus as an absolute amount is used in the appraisal. These results are interesting as they suggest that if the recipient of a bonus considers their bonus pay in the context of their total pay (i.e. considering bonus pay as a percentage of their salary) then different psychological mechanisms may be employed in order to determine satisfaction with their bonus and turnover intention than if the recipient of the bonus considers their bonus pay as an absolute amount. In one mechanism justice is a mediating variable, and in the other justice does not play a mediating role.

Interrogating the potential mediating effects of different scales of justice also produces some interesting insights. Neither procedural nor distributive justice mediate the relationships between bonus as a percentage of salary and either bonus satisfaction or turnover intention. Interpersonal justice and informational justice do, however, mediate these relationships. Distributive justice does not mediate the relationship between bonus as an absolute amount and either bonus satisfaction or turnover intention, whereas procedural justice does mediate these relationships. Similarly, interpersonal justice mediates the relationships between bonus as an absolute amount and both bonus satisfaction and turnover intention, whereas informational justice does not. This suggests a differential mediating role of each justice scale. Distributive justice does not mediate any of the relationships in the analysis, whereas interpersonal justice plays a mediating role in each of the relationships in the analysis. Both informational and procedural justice play a mediating role in certain relationships but not all relationships, with informational justice mediating relationships between bonus as a percentage of salary and both bonus satisfaction and turnover intention, and procedural justice mediating the relationships between bonus as an absolute amount and both bonus satisfaction and turnover intention.

Table 18.

*Unstandardized (B) and Standardised ( $\beta$ ) regression coefficients and squared semi partial correlations ( $sr^2$ ) for each predictor in a regression model predicting organisational justice scales.*

Variable	Procedural Justice			Distributive Justice			Interpersonal Justice			Informational Justice		
	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$
Bonus (% of Salary)	.008 [-.001, .015]*	.086	.007	.012 [-.001, .025]	-.073	.005	.008 [-.000, .016]	.076	.006	.010 [.002, .019]*	.103	.011
Bonus (Amount)	.007 [-.014, .028]	.040	.001	-.029 [-.066, .008]	-.100	.004	.017 [-.007, .041]*	.093	.003	-.010 [-.033, .014]	-.053	.001

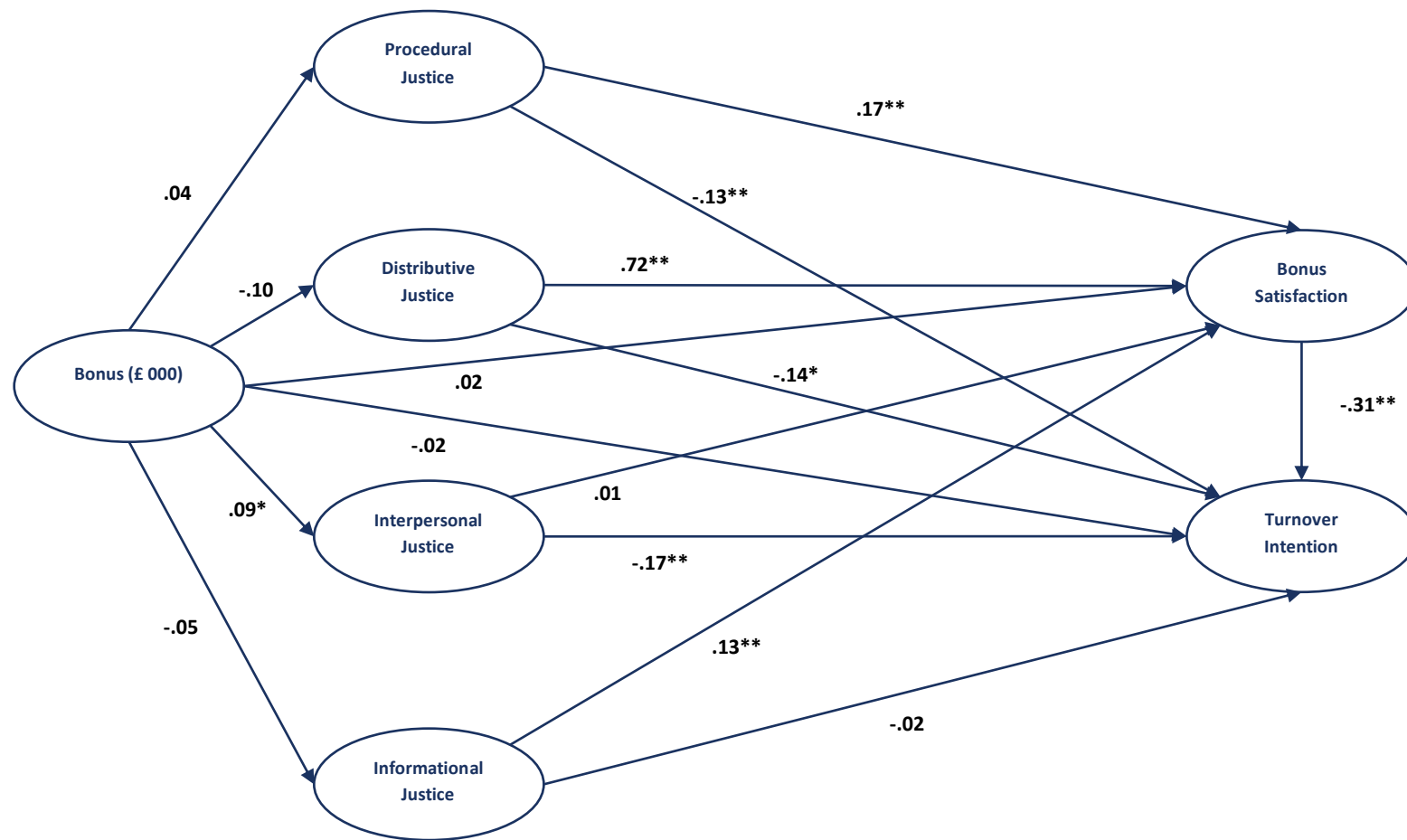
*Note: N = 599. CI = confidence interval*

*\* $p < .05$ . \*\* $p < .01$ .*

### 5.11. Completing the Path Model

In order to understand the full set of path relationships in the research, a standard regression analysis was conducted considering the relationships between bonus (both as an absolute amount and as a percentage of salary) and all four scales of justice. These results are shown in Table 18. There are significant though weak relationships between bonus as a percentage of salary and both procedural ( $\beta = 0.09$ ,  $p < 0.05$ ), and informational justice ( $\beta = 0.10$ ,  $p < 0.05$ ). There is a significant but weak relationship between bonus as an absolute amount and interpersonal justice ( $\beta = 0.09$ ,  $p < 0.05$ ). There are no significant relationships between bonus amount (either as a percentage of salary or an absolute amount) and distributive justice. Combining these results with the outcomes of previous hierarchical multiples regression analyses where both bonus satisfaction and turnover intention act as dependent variables (summarised in Tables 14 and 15) allow for the completion of the path model in Figure 17. This diagram allows for the investigation of standardised estimates between bonus pay (as an absolute amount), justice scales and both bonus satisfaction and turnover intention.

Perhaps surprisingly no direct significant relationships exist between bonus amount and either bonus satisfaction or turnover intention. Similar to bonus satisfaction, distributive justice does not maintain any significant relationship with bonus amount (surprising because distributive justice at least theoretically is partially defined by the amount received in an exchange relationship). Bonus satisfaction is significantly related to procedural, distributive, and informational justice scales and turnover intention. There is no significant relationship between interpersonal justice and bonus satisfaction. Interpersonal justice in itself demonstrates interesting relationships. This justice scale is significantly related to both bonus amount and turnover intention and is the only justice scale not to demonstrate a significant relationship with bonus satisfaction. In terms of relationships with turnover intention, bonus satisfaction is the strongest predictor ( $\beta = -0.31$ ,  $p < 0.01$ ), followed by interpersonal justice ( $\beta = -0.17$ ,  $p < 0.01$ ) and distributive justice ( $\beta = -0.14$ ,  $p < 0.05$ ). Though there is a significant relationship between informational justice and bonus satisfaction, not such relationship exists between informational justice and turnover intention, indicating that appraisals related to bonus satisfaction and turnover intention are made using different scales of justice as the bases.



Note: \* $p < .05$ . \*\* $p < .01$ .

Figure 17. Path model showing standardised estimates between bonus amount, justice scales, bonus satisfaction and turnover intention.

## 5.12. Relationships between bonus pay, referent selection, justice and bonus satisfaction

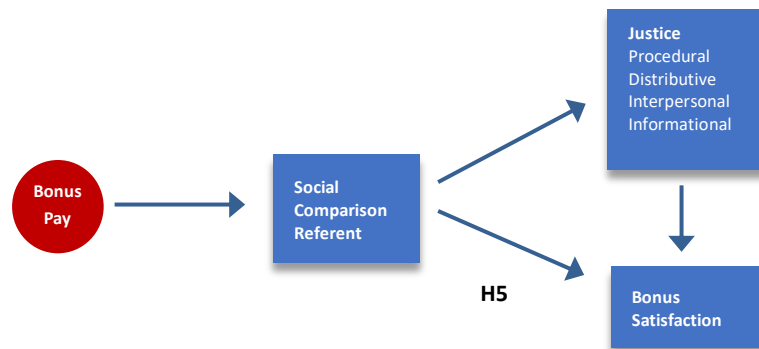


Figure 18. Outline of the figure showing proposed relationships between bonus pay, social comparison referent, organisational justice and bonus satisfaction.

There are multiple significant relationships between referents selected, as shown in Table 13. To identify some more the more interesting relationships which are in-line with findings in other referent research, R1 – ‘What other people in this company at my job level are paid’ is significantly positively related to R7 - ‘What other people in this company at a higher job level than mine are paid’ ( $r = .76, p < .01$ ) and R8 - ‘The pay of others in this company who are below my job level’ ( $r = .47, p < .01$ ) indicating that there are moderate to strong relationships between referents internal to the company which may suggest that if participants choose an internal company referent as being important to their perceptions of fairness (e.g. R1) they are then also more likely to use other internal referents than, for example, to go outside of this group and couple an internal company referent with a self-referent such as R6 – ‘What I think I am worth’ ( $r = .16, p < .01$ ). This is consistent with the research of Nosanchuk and Erickson (1985) and Wheeler et al. (1982) who show that while similar others are more likely to be chosen as referents, upwards comparisons are also frequently made in pay decisions. It is also consistent with pay research (e.g. Goodman, 1974) which suggests multiple referents are used in pay comparisons. This is thought to be a mechanism by which an individual tests their own pay in the context of the broader organisation (Kulik & Ambrose, 1992) and therefore arrives at an understanding of self-worth (Gardner, Van Dyne, & Pierce, 2004).



There are also significant negative relationships between referents, which indicate that if certain referents are chosen then it is less likely that others are chosen. As an example R1 – ‘What other people in this company at my job level are paid’ is significantly negatively related to R3 - ‘What this company promised it would pay me’ ( $r = -.46, p < .01$ ), R4 - ‘The cost of living’ ( $r = -.31, p < .01$ ), R5 – ‘What I have been paid in previous jobs’ ( $r = -.26, p < .01$ ) and R9 – ‘My friends pay’ ( $r = -.29, p < .01$ ). This would indicate that as participants choose certain referents, they are less likely to choose others. As an example, if R1 - ‘What other people in this company at my job level are paid’ is chosen, participants will then be less likely to choose R3 – ‘What this company promised it would pay me’, with a moderate negative relationship. Whereas R1 (What other people in this company at my job level are paid) is significantly moderately negatively related to R3, R5 and R9, R2 (What other employers are paying for my kind of work) is significantly moderately positively related to R3, R5 and R9. If R1 is selected participants are less likely to select R3 – ‘What this company promised it would pay me’, whereas if R2 is selected participants are more likely to choose R3 – ‘What this company promised it would pay me’. Further referent relationships are detailed in Table 13, with underlying relationships of the factor structure of referents detailed in Section 5.3 and Table 11.

### 5.13. Structure and frequency of referents selected

Three factors were identified as underlying the nine referent choices in the measure, as detailed in Table 11. These three factors (components 5, 8 and 12) account for 12.6% of the variation in the data, with each component accounting for 5.2%, 4.1% and 3.3% respectively. On further investigation of the referent items aligned to each component the results show that component 5 relates to referents inside the same company at similar, higher and lower levels or to the bonus promise made by the company (internal referents). Component 8 relates to friends pay, pay in previous jobs and the cost of living (referents related to accessible information or information referents). Component 12 relates to what other employers are paying, and what I think I am worth, which indicate external market referents. These groups are important as they form the blocks which will be added to the hierarchical multiple regression analysis in subsequent analysis, and are consistent with the findings of Blau (1994), Goodman (1974), Law and Wong (1998) and Gerlach et al. (2006) amongst others suggesting referents in this analysis are grouped into three distinct factors - internal referents, information referents and market referents. While considering the factor structure of the measure allows for the interrogation of referent groupings, it does not effectively allow for the testing of hypotheses 5a and 5b (as referents may be in the same group though their importance to fairness perceptions is rated differently). In order to test hypotheses 5a and 5b

the importance of referent must be considered, as well as a regression analysis to understand the effect of referent choice on bonus satisfaction.

#### 5.13.1. Frequency and importance of referent

A frequency analysis of the responses to the referent section of the questionnaire shows that of the 599 participants in the research, 272 suggested that more than one referent was 'very important' in order to judge whether the bonus is fair (in comparison 383 participants suggesting that more than one referent was 'important'). A single participant suggested that 8 referents were 'very important' in order to judge the fairness of their bonus award, a single participant suggested that 7 referents were 'very important', 6 participants suggested that 6 referents were 'very important', 5 participants suggested that 5 referents were 'very important', 25 participants suggested that 4 referents were 'very important', 91 participants suggested that 3 referents were 'very important', 143 participants suggested that 2 referents were 'very important', 162 participants suggested that 1 referent was 'very important' and 165 participants suggested that no referents were 'very important' in order to judge the fairness of the bonus award. This suggests that hypothesis 5a (that multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus) is not supported as the majority of participants (54.6%) suggested that either no referents or a single referent is very important in determining the fairness of the bonus award. In order to test whether these frequencies are significant, a chi-square goodness of fit test was performed. The results indicate a significant difference between the frequency of participants choosing multiple referents classed as 'very important' compared to participants not using multiple referents ( $\chi^2=5.05$ ,  $N = 599$ ,  $df = 1$ ,  $p < 0.05$ ) providing additional support for the null hypothesis. This analysis does not however allow for the testing of hypothesis 5b (that the referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level).

5.14. Testing hypothesis 5a and 5b: a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.

In order to test the importance of the choice of referent in the development of bonus satisfaction appraisals (and so test hypothesis 5b) a hierarchical multiple regression was performed, with bonus satisfaction (as measured by the Bonus Satisfaction Survey; Sturman & Short, 2000) as the dependent variable, and referents added as predictor variables in

blocks consistent with the results of the factor analysis in Table 11. Assumptions related to normally distribution, univariate outliers, normality, linearity and homoscedasticity of residuals were tested and met. Similarly, multivariate outliers were not of concern, and relatively high tolerances for predictors in the regression model indicated that multicollinearity would not interfere with the ability to interpret the outcomes of the regression analysis. Gender, position and salary are added in the first step (and therefore are controlled for in subsequent steps). In the next step referents inside the same company at similar, higher and lower levels and the bonus promise made by the company are added (referents R1, R3, R7 and R8, or component 5 in the factor analysis). In step three referents related to friends pay, pay in previous jobs and the cost of living (R4, R5 and R9, or component 8 in the factor analysis). In step 4 the remaining referents related to what other employers are paying, and what I think I am worth are added (component 12 in the factor analysis). The results of each step in the model are shown in Table 19. Component 5 (noted as internal referents in the factor analysis) accounts for 8.5% of the variance in bonus satisfaction ( $\Delta R^2 = 0.085$ ,  $\Delta F(4, 591) = 13.795$ ,  $p < .001$ ), component 8 (or information referents) accounts for an additional 6.5% of the variance in bonus satisfaction ( $\Delta R^2 = 0.065$ ,  $\Delta F(3, 588) = 15.147$ ,  $p < .001$ ), and component 12 (or external market referents) accounts for an additional 1.5% of the variance in bonus satisfaction ( $\Delta R^2 = 0.015$ ,  $\Delta F(2, 586) = 5.312$ ,  $p < .001$ ). When all predictor variables are added to the model they together account for 17% of the variance in bonus satisfaction ( $R^2 = 0.168$ ,  $F(12, 586) = 9.849$ ,  $p < .001$ ). The effect size, as calculated by Cohen's  $f^2$  is small.

Considering the results of the hierarchical multiple regression, the referent which forms the strongest positive significant predictor of bonus satisfaction is 'What the company promised it would pay me' ( $\beta = 0.267$ ,  $p < 0.01$ ) followed by 'what I think I am worth' ( $\beta = 0.140$ ,  $p < 0.01$ ), with 'the cost of living' ( $\beta = -0.156$ ,  $p < 0.01$ ), and 'my friends pay' ( $\beta = -0.137$ ,  $p < 0.01$ ) forming the strongest negative significant predictors. The referent representing those in the same company at the same level does not have a significant predictive relationship with bonus satisfaction and is weaker in terms of its predictive ability than the majority of other referents. The results therefore suggest that the second part of this hypothesis is not supported, and therefore these investigations find no support for hypothesis 5a or 5b. The majority of participants do not suggest that multiple referents are very important to their fairness perceptions when engaging in social comparison. Rather than 'those in the same company at the same level' being the most important referent in determining bonus satisfaction, other referents play a more substantial role. These relationships will be investigated in the following section.

Table 19.

*Unstandardized (B) and Standardised ( $\beta$ ) regression coefficients for each predictor in a hierarchical multiple regression model predicting bonus satisfaction*

Variable	<i>B</i> [95% <i>CI</i> ]	SE <i>B</i>	$\beta$	$\Delta R^2$	$\Delta F$ ( <i>df</i> )
Step 1					
Gender	-.059 [-.210, .092]	.077	-.032	0.002	0.410 (3,595)
Position	-.038 [-.227, .151]	.096	-.019		
Salary	-.002 [-.006, .002]	.002	-.046		
Step 2					
Gender	-.045 [-.191, .107]	.074	-.024	0.085	13.795 (4,591)
Position	.032 [-.151, .215]	.093	.017		
Salary	-.001 [-.005, .003]	.002	-.027		
R1 (others at my level)	.075 [-.002, .151]	.039	.117		
R3 (company promise)	.154 [ .108, .200]**	.024	.292		
R7 (others at higher level)	.016 [-.069, .101]	.043	.023		
R8 (others at lower level)	-.103 [-.179, -.026]**	.039	-.124		
Step 3					
Gender	-.043 [-.185, .098]	.072	-.024	0.065	15.147 (3,588)
Position	.028 [-.149, .206]	.090	.015		
Salary	-.001 [-.005, .003]	.002	-.023		
R1 (others at my level)	.020 [-.056, .096]	.039	.031		
R3 (company promise)	.141 [ .096, .186]**	.023	.268		
R7 (others at higher level)	-.042 [-.126, .043]	.043	-.058		
R8 (others at lower level)	-.048 [-.124, .028]	.039	-.058		
R4 (cost of living)	-.191 [-.286, -.095]**	.049	-.167		
R5 (previous jobs)	-.052 [-.122, .018]	.035	-.066		
R9 (friends pay)	-.105 [-.172, -.039]**	.034	-.138		
Step 4					
Gender	-.016 [-.157, .126]	.072	-.008	0.015	5.312 (2,586)
Position	.014 [-.162, .191]	.090	.007		
Salary	-.001 [-.005, .003]	.002	-.026		
R1 (others at my level)	.011 [-.065, .088]	.039	.018		
R3 (company promise)	.141 [ .092, .189]**	.025	.267		
R7 (others at higher level)	-.066 [-.152, .020]	.044	-.092		
R8 (others at lower level)	-.046 [-.121, .029]	.038	-.055		
R4 (cost of living)	-.177 [-.273, -.082]**	.049	-.156		
R5 (previous jobs)	-.092 [-.168, .016]*	.039	-.117		
R9 (friends pay)	-.104 [-.170, -.038]**	.034	-.137		
R2 (other employers)	-.011 [-.078, .055]	.034	-.015		
R6 (what I think I'm worth)	.092 [ .036, .147]**	.028	.140		

Note: N = 599. CI = confidence interval,  $R^2 = 0.168$

Dependent Variable: Bonus Satisfaction (BSS)

\* $p < .05$ . \*\* $p < .01$ .

Table 20.

*Unstandardized (B) and Standardised ( $\beta$ ) regression coefficients, and squared semi partial correlations ( $sr^2$ ) for each referent as a predictor in a regression model predicting organisational justice*

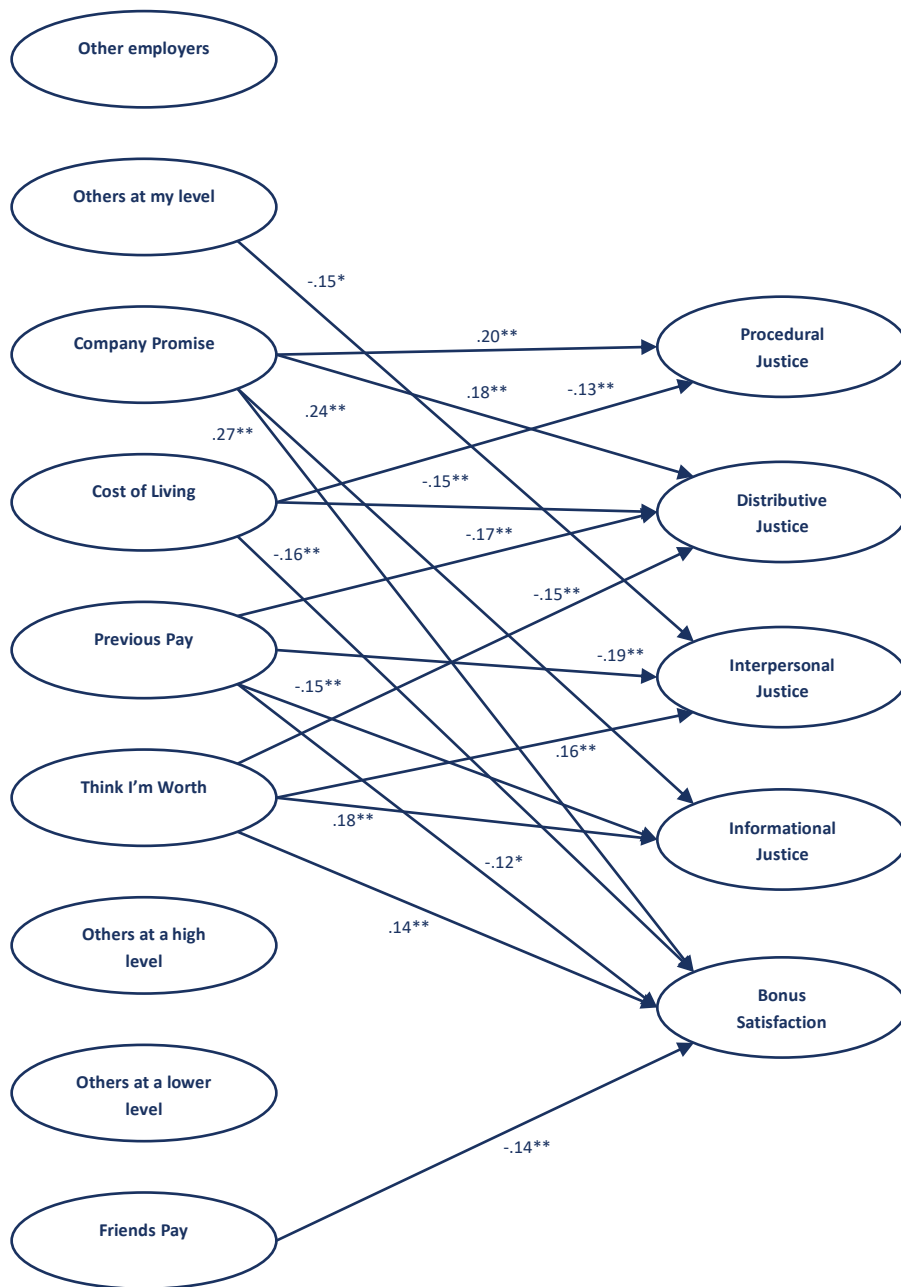
Variable	Procedural Justice			Distributive Justice			Interpersonal Justice			Informational Justice		
	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$	<i>B</i> [95% <i>CI</i> ]	$\beta$	$sr^2$
What other people in this company at my job level are paid	-.022 [-.082, .039]	-.049	.001	-.090 [-.195, .015]	-.114	.005	-.074 [-.142, -.006]*	-.150	.008	-.049 [-.116, .018]	-.099	.003
What other employers are paying for my kind of	-.014 [-.065, .038]	-.026	.000	-.018 [-.072, .107]	.018	.000	.031 [-.027, .089]	.051	.002	-.047 [-.104, .010]	-.078	.004
What this company promised it would pay me	.071 [.035, .108]**	.196	.025	.114 [.051, .177]**	.177	.020	-.012 [-.053, .029]	-.030	.000	.098 [.057, .138]**	.240	.037
The cost of living	-.100 [-.174, -.026]**	-.125	.012	-.209 [-.337, -.081]**	-.147	.017	-.006 [-.089, .077]	-.007	.000	-.021 [-.103, .061]	-.023	.000
What I have been paid in previous jobs	.012 [-.046, .071]	.023	.000	-.163 [-.264, -.063]**	-.169	.016	-.115 [-.180, -.049]**	-.188	.020	-.090 [-.154, -.025]**	-.146	.012
What I think I am worth	.036 [-.006, .077]	.080	.005	.120 [.048, .192]**	.151	.017	.078 [.031, .124]**	.155	.018	.088 [.042, .135]**	.176	.023
What others in this company at a higher job level than mine are paid	.031 [-.038, .100]	.062	.001	-.015 [-.134, .103]	-.017	.000	.074 [-.003, .151]	.131	.006	.068 [-.008, .144]	.120	.005
The pay of others in this company who are below my job level	-.027 [-.084, .030]	-.047	.002	-.019 [-.118, .080]	-.019	.000	-.039 [-.103, .025]	-.061	.003	-.011 [-.075, .052]	-.017	.000
My friend's pay	-.024 [-.074, -.026]	-.046	.002	-.065 [-.151, .022]	-.069	.004	-.044 [-.100, -.012]	-.075	.004	.013 [-.042, .069]	.023	.000

Note: *N* = 599. *CI* = confidence interval

\**p* < .05. \*\**p* < .01.

### 5.15. The relationship between referent selection and organisational justice

Further multiple regression analyses were conducted in order to estimate the proportion of variance in organisational justice (all four scales or procedural, distributive, interpersonal and informational as measured by the OJS) that can be accounted for by referent selection (with results shown in Table 20). All four assumptions (as detailed in the above section) were satisfied by the data set prior to conducting the analyses. In combination, referent selection accounted for a significant 6.4% of the variability in procedural justice,  $R^2 = 0.064$ , adjusted  $R^2 = 0.049$   $F(9, 558) = 4.178$ ,  $p < 0.01$ , a significant 12.2% of the variability in distributive justice,  $R^2 = 0.122$ , adjusted  $R^2 = 0.108$   $F(9, 582) = 8.493$ ,  $p < 0.01$ , a significant 6.6% of the variability in interpersonal justice,  $R^2 = 0.066$ , adjusted  $R^2 = 0.051$   $F(9, 582) = 4.334$ ,  $p < 0.01$ , and a significant 9.3% of the variability in informational justice,  $R^2 = 0.093$ , adjusted  $R^2 = 0.078$   $F(9, 582) = 6.224$ ,  $p < 0.01$ . Conducting a similar regression analysis with turnover intention as the dependent variable also allows an understanding of the amount of variance in turnover intention accounted for by referent selection. In this analysis referent selection in combination accounted for a significant 9.3% of the variability in turnover intention,  $R^2 = 0.093$ , adjusted  $R^2 = 0.078$   $F(9, 558) = 6.23$ ,  $p < 0.01$ . The significant standardised estimates between referents and justice (all four scales) and bonus satisfaction are shown in Figure 19. It can be seen from this figure that the strongest significant relationships exist between the referent of a company promise and informational justice ( $\beta = 0.24$ ,  $p < 0.01$ ) and procedural justice ( $\beta = 0.20$ ,  $p < 0.01$ ). This is perhaps to be expected as if a promise is made there is typically both an informational component (with a promise forming an effective communication episode) and a procedural component (where the promise may be encapsulated in a policy or organisational process). Also interesting to note is that unlike in previous research considering referents used in pay situations, others in the same organisation at a higher level or lower level are not significantly related to bonus satisfaction or justice, and others at the same level only have significant relationships with interpersonal justice ( $\beta = -0.15$ ,  $p < 0.05$ ).



Note:  $*p < .05$ .  $^{**}p < .01$ .

Figure 19. Significant standardised regression coefficients for the relationships between referent selection, justice and bonus satisfaction.

It may be important to note at this stage of this research that there may be alternative explanations for the results relating referent choice to both justice and satisfaction. As suggested by the review of the literature, in order to form an appraisal related to social comparison referents two conditions are required to be met; information must be available on referent groups, and the referent must be relevant to the comparison (Schneider, 2010; Dornstein, 1988). As this thesis has tested the importance of the referent group to fairness in bonus pay situations, and has not tested whether information is readily available there is a clear limitation in the findings of this research. It may be that some referents (for example 'others in the same company at a higher level' are actually more relevant to bonus comparisons than others, but the lack of significant relationships represents a lack of available information on this group rather than importance as a comparison point in determining bonus satisfaction and justice appraisals. This is a potential limitation in this element of the research which could be the focus of future investigation.

#### 5.16. The relationship between bonus amount and referent selection

To assess the size and direction of the relationships between bonus amount, bonus amount as a percentage of salary and referent selection, a bivariate correlation was carried out. Kendall's tau-b indicated the presence of only weak correlations between both bonus amount and bonus as a percentage of salary and referent selection. There are no significant relationships between bonus amount or bonus as a percentage of salary and any of the nine referents. This would indicate that referents are chosen based on factors other than the amount of bonus pay. This is consistent with previous research, in that more stable factors such as level of education, position and seniority within the organisation, as well as information availability have tended to form the bases of referent selection criteria (e.g. Goodman, 1974; Scholl et al., 1987; Dornstein, 1988). The finding that different referents are chosen in different situations does not appear to extend to different situations involving amount of bonus pay. There may be various reasons for this, including those identified by Dornstein (1988) related to information availability and relevance. As the amount of bonus pay increases, this does not make new information available on others in the workplace, neither does this ensure the increased relevance of each referent. This is in itself an interesting novel finding regarding bonus pay. The Kendall's tau-b correlations between bonus amount, bonus as a percentage of salary and referent selection are shown in Table 21.



Table 21.

*Kendall's tau-b correlations between bonus amount, bonus as a percentage of salary and referent selection along with significance levels*

	Bonus	BonPerc	R1	R2	R3	R4	R5	R6	R7	R8	R9
Bonus	1.00										
BonPerc	.58**	1.00									
R1: What other people in this company at my job level are paid	.06	.04	1.00								
R2: What other employers are paying for my kind of work	.01	-.02	-.11**	1.00							
R3: What this company promised it would pay me	.03	.03	-.44**	.30**	1.00						
R4: The cost of living	.01	.03	-.31**	.31**	.11**	1.00					
R5: What I have been paid in previous jobs	-.04	-.04	-.24**	.33**	.04	.38**	1.00				
R6: What I think I am worth	.02	.01	.15**	.22**	-.05	-.02	.24**	1.00			
R7: What others in this company at a higher job level than mine are paid	.01	.00	.67**	-.03	-.33**	-.24**	-.15**	.27**	1.00		
R8: The pay of others in this company who are below my job level	.02	.05	.41**	.06	-.25**	.01	.07*	.17**	.46**	1.00	
R9: My friend's pay	.00	-.01	-.26**	.23**	.11**	.33**	.38**	.02	-.30**	-.01	1.00

Note:  $N = 599$

\* $p < .05$ . \*\* $p < .01$ .

## 5.17. Gender and Position Differences

Preliminary assumptions testing indicates that scores for male and female participants, and managers and non-managers are reasonably normally distributed across the variables in this research (justice, bonus satisfaction, turnover intention, earnings, bonus amount and bonus as a percentage of salary). Consequently, Welch's t-test was used to compare male ( $N = 323$ ) and female ( $N = 276$ ) participants average scores across variables. These scores are reported in Table 22, along with the mean, standard deviation, degrees of freedom and effect size (represented as Cohen's  $d$ ) for each variable. The t-test is significant for only three variables, position (whether manager or non-manager), bonus amount, and salary. There are no significant differences between the genders of participant in justice, bonus satisfaction or turnover intention measures. These significant differences in gender suggest that male participants are more likely to be in managerial positions, are more likely to have higher mean salaries, and are also more likely to obtain higher mean bonus amounts than female participants. Interestingly, as there are no significant differences in bonus as a percentage of salary, this indicates that whilst male participants tend to have higher mean salaries and higher mean bonus payments than female participants, there are no significant differences in proportions of bonus pay to salary across genders.

Considering differences in manager ( $N = 203$ ) and non-manager ( $N = 396$ ) participants Welch's t-test was conducted to compare average scores. These scores are reported in Table 23, along with the mean, standard deviation, degrees of freedom and effect size ( $d$ ) for each variable. Table 22 demonstrates that there are significant gender differences between managers and non-managers. A further analysis of the manager and non-manager populations shows that significant differences exist only in bonus amount and salary. There are no significant differences between managers and non-managers for justice, satisfaction or turnover intention measures. The effect size is small for differences in both gender and position, as indicated by Cohen's  $d$  (also listed in Table 23), meaning that the separation of the group means is small in terms of their common standard deviations. These results indicate that managers tend to earn higher mean salaries than non-managers and that they tend to receive higher mean bonus pay (perhaps to be expected given the additional accountability involved in people management activities).

In order to test if any significant differences exist in the choice of referents between male and female participants, and between managers and non-managers, further t-tests were conducted to compare average scores across referents. In terms of gender, significant differences exist between male and female participants for four referents; R1 – 'What other

people in this company at my job level are paid', R2 – 'What other employers are paying for my kind of work', R6 – 'What I think I am worth' and R7 – 'What others in this company at a higher job level than mine are paid'. The results of the t-tests for these referents are shown in Table 24. Only differences which reach traditional levels of significance are included. In terms of means between managerial position where referent selection is concerned, only one referent shows a significant difference (R2 - 'What other employers are paying for my kind of work'). This is shown in Table 25. Again, the effect size is small for differences in both gender and position related to referent selection as indicated by Cohen's d, meaning that the separation of the two group means is small in terms of their common standard deviations. The findings show that male participants are more likely to compare their bonus pay with others in the same company at the same level, more likely to compare their bonus pay with what other employers are paying (though as male participants are also more likely to be managers this could indicate increased mobility of employment for managerial employees consistent with the research of Dornstein, 1988, as shown in Table 22), more likely to compare their pay with what they think they are worth, and more likely to compare their pay with others in the same company at a higher level than female participants.

Table 22.

*Welch's t-test and means across variables for male and female participants*

Variable	Male (N = 323)		Female (N = 276)		t	df	d
	Mean	SD	Mean	SD			
Procedural Justice	3.15	0.63	3.15	0.66	-0.26	597	0.00
Distributive Justice	3.05	1.15	3.01	1.10	0.34	597	0.00
Interpersonal Justice	4.13	0.73	4.05	0.73	1.31	597	0.01
Informational Justice	3.14	0.74	3.12	0.69	0.44	597	0.00
Bonus Satisfaction	2.96	0.93	2.92	0.90	0.61	597	0.00
Turnover Intention	3.06	0.85	3.10	0.83	-0.58	597	0.00
Position	1.6	0.49	1.73	0.44	-3.44**	595	-0.01
Bonus Percentage	9.88	7.38	8.77	6.58	1.92	597	0.01
Bonus Amount	5.94	4.20	4.58	3.45	4.38**	596	0.02
Salary	63.54	22.25	54.33	19.73	5.37**	596	0.02

N = 599, \*p < .05., \*\*p < .01.

Table 23.

*Welch's t-test and means across variables for manager and non-manager participants*

Variable	Manager (N = 203)		Non-manager (N = 396)		t	df	d
	Mean	SD	Mean	SD			
Procedural Justice	3.14	0.61	3.15	0.66	-0.11	597	0.00
Distributive Justice	2.98	1.09	3.06	1.15	-0.90	425	-0.01
Interpersonal Justice	4.06	0.76	4.11	0.71	-0.87	597	0.00
Informational Justice	3.10	0.68	3.14	0.74	-0.64	597	0.00
Bonus Satisfaction	2.94	0.89	2.94	0.93	-0.06	597	0.00
Turnover Intention	3.06	0.79	3.09	0.87	-0.46	445	0.00
Bonus Percentage	9.37	6.38	8.87	7.37	1.06	597	0.01
Bonus Amount	7.00	4.74	4.45	3.11	6.92**	294	0.04
Salary	76.43	21.21	50.51	15.76	15.38**	320	0.09

N = 599, \*p < .05., \*\*p < .01.

Table 24.

*Welch's t-test and means for male and female participants considering referent selection*

Referent	Male (N = 323)		Female (N = 276)		t	df	p
	Mean	SD	Mean	SD			
R1 Others in this company at my level	3.89	1.38	3.61	1.50	2.39**	564	.010
R2 What other employers are paying	2.20	1.26	1.99	1.13	2.24*	596	.030
R6 What I think I am worth	3.72	1.30	3.29	1.49	3.66**	552	.000
R7 Others here at a higher level	3.88	1.22	3.64	1.33	2.24*	564	.030

N = 599, \*p < .05., \*\*p < .01.

Table 25.

*Welch's t-test and means for manager and non-manager participants considering referent selection*

Referent	Manager (N = 203)		Non-Manager (N = 396)		t	df	p
	Mean	SD	Mean	SD			
R2 What other employers are paying	2.25	1.32	2.03	1.14	1.99*	361	.050

N = 599, \*p < .05., \*\*p < .01)

These results show some interesting dynamics. Attitudes (in the forms of satisfaction, turnover and justice) do not vary for male and female participants yet bonus amount and salary do (though in proportion). This appears to indicate that though female participants are paid less in general than male participants, they are equally satisfied, believe that this is fair and are no more likely to leave the organisation because of this. There may be potential reasons for this in that male participants tend to be in managerial positions, and so consistent with equity rules are seen as having differences in organisational inputs consistent with their increased output (Adams, 1965). It is also interesting to note that the means returned for four referents vary significantly between male and female participants. The means for one referent varies significantly for manager and non-manager participants. Could these results identify a difference in appraisal paths between male and female participants when determining if a bonus is fair and whether they should be satisfied with a bonus? If female participants are paid less on average but are less likely to compare this pay with (as an example) others at the same level in the same company or others at a higher level, then perhaps these less frequent upwards or horizontal social comparison processes lead to differences in fairness and satisfaction appraisals. This is certainly one of the more interesting findings in the research, and worthy of further investigation.

## 5.18. Summary of findings

Due to the diverse nature of the variables under investigation in this cross-sectional study, the results are broad. The findings of this investigation are summarised here, then discussed in more detail in the context of the absolute findings and findings related to previous research in the discussion section in Chapter 8. This summary begins with a review of the hypotheses this investigation seeks to address, followed by the findings related to bonus pay. The section then follows the relationship paths through to social comparison processes and referent selection, organisational justice appraisals (in their scale forms of distributive, procedural, interpersonal and interactional justice), bonus satisfaction and turnover intention. Each of these relationships is summarised in the following sections.

### 5.18.1. Summary of Hypotheses

A summary of the hypotheses addressed in this investigation is provided in Table 26. There is no support for hypothesis 1 as there is no evidence of a linear relationship between bonus amount (either as a percentage of salary or absolute amount) and bonus satisfaction, therefore the research provides support for the null hypothesis (though the nature of any potential complex relationship is also unclear from the analysis). There is support for hypotheses 2a and 2b as organisational justice is positively related to bonus satisfaction and negatively related to turnover intention, indicating that as perceptions of justice increase then satisfaction with the bonus increases and turnover intention decreases. There is partial support for hypotheses 3a and 3b as organisational justice mediates the relationships between both bonus amount as a percentage of salary and both bonus satisfaction and turnover intention, but does not mediate the relationship between bonus as an absolute amount and either bonus satisfaction or turnover intention. These relationships become more complex when the individual justice scales of procedural justice, distributive justice, interpersonal justice and informational justice are considered, with mediating relationships apparent for some scales of justice but not others (seemingly dependent both on the scale of justice and the bonus pay variable considered). There is support for hypothesis 4 as where bonus pay is concerned distributive justice is a stronger predictor of bonus satisfaction than other scales of justice, though as the factor analysis in this research shows an item of the bonus satisfaction survey and an item related to distributive justice (from the organisational justice survey) load heavily onto the same factor (though further analysis provides support for keeping the original structure of the measures). Finally, the investigation finds no support for hypothesis 5a or 5b. The majority of participants suggested that one or fewer referent is

very important as a comparison point to their perceptions of fairness on receipt of their bonus (rather than multiple referents), and those in the same company at the same level are not most important in determining bonus satisfaction. The referent of 'What the company promised it would pay me' instead predicts more variance in bonus satisfaction, followed by 'what I think I am worth'.

Table 26.

*Hypotheses addressed by cross sectional investigation with outcomes*

Hypothesis	Description	Comment
H1	Bonus amount will demonstrate a linear relationship with bonus satisfaction.	No support
H2a,2b	Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention.	Support
H3a,3b	Organisational justice will at mediate the relationship between (a) bonus amount and bonus satisfaction and (b) bonus amount and turnover intention	Partial support
H4	Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components for bonus pay conditions.	Support
H5a,5b	(a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. (b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.	No Support

### 5.18.2. Bonus amount

The results of the investigation show that there are no significant direct relationships between bonus amount and either bonus satisfaction or turnover intention. This is one of the findings of this research which is contrary to findings in previous literature (e.g. Pokorny, 2008; Gneezy, 2004; Pouliakas, 2010), where pay has been shown to have a complex relationship with bonus satisfaction, but a relationship nonetheless. Similarly, the relationships between bonus amount and organisational justice tend to be non-significant. Only relationships between bonus as a percentage of salary and both procedural and

informational justice and bonus as an absolute amount and interpersonal justice are significant (though each of these relationships is weak). This is certainly one of the more interesting findings within this research and offers interesting possibilities for future investigation. This raises a fundamental question as to why there is such a focus on the amount an individual receives as a bonus when clearly other processes (such as the social comparison processes which take place because of this bonus, or the injustice resulting from the bonus payment independent of the amount of bonus) have a stronger association with both satisfaction and turnover intention appraisals. Perhaps of special interest given the theoretical foundations of justice is the lack of significant relationship between bonus amount and distributive justice. Given the definition of distributive justice as 'fairness associated with outcomes decisions and distribution of resources' (Colquitt, 2001) it is perhaps surprising that there are no significant relationships between bonus amount and distributive justice.

### 5.18.3. Referent Selection

The results investigating the referents chosen by participants when their bonus is announced show some nuances when compared with previous pay research (albeit research broadly considering total pay or salary rather than the specific instance of bonus pay). In previous pay research investigators have suggested that multiple referents are generally used in pay satisfaction appraisals, but these groups are limited in size (e.g. Oldham, 1976; Goodman, 1974; Law & Wong, 1998). This research finds that most participants suggest that one or fewer referents are very important in deciding whether their bonus is fair, rather than the use of multiple referents suggested in previous research (though 383 of the 599 participants suggest that more than one referent is 'important' to their fairness perceptions). While bonus amount has no direct relationship with bonus satisfaction or turnover intention, the referent chosen by participants accounts for a significant 17% of the variability in bonus satisfaction, 6.4% of the variance in procedural justice, 12.2% in distributive justice, 6.6% in interpersonal justice, 9.3% in informational justice and 9.3% in turnover intention. The choice of referent used in fairness decisions therefore significantly predicts bonus satisfaction, all scales of organisational justice and turnover intention. In terms of justice appraisals, referent selection plays a greater role in determining the variance in distributive justice than other justice scales. Logically this seems sensible, as referents are perhaps less important to judgements associated with process (which is typically set by the organisation) than allocation and treatment appraisals (where comparison points are perhaps more subjective and open to variation dependent on individual actors). Of all referents 'What this company promised it would pay me' returns the highest standardised regression weight when predicting bonus satisfaction. Only five of the nine referents including in this research directly predict bonus



satisfaction, and interestingly none of these are current organisational referents other than that of a company promise (others are 'the cost of living', 'my pay in previous jobs', 'what I think I'm worth' and 'my friends pay').

#### 5.18.4. Organisational Justice

Distributive, procedural and informational justice all significantly predict variation in bonus satisfaction, with the strongest effect being that between distributive justice and bonus satisfaction ( $\beta = .72, p < 0.01$ ). This is more than four times the next strongest relationship between justice and bonus satisfaction (the relationship between procedural justice and bonus satisfaction, where  $\beta = .17, p < 0.01$ ) indicating that distributive justice is more strongly associated with bonus satisfaction than other justice scales. Together these justice scales predict 83% of the variance in bonus satisfaction. Justice scales also predict turnover intention, with the strongest effect being between interpersonal justice and turnover intention ( $\beta = -.17, p < 0.01$ ), followed by distributive justice ( $\beta = -.14, p < 0.01$ ) and procedural justice ( $\beta = -.13, p < 0.01$ ). This finding offers some support for the findings of Tremblay et al. (2000) who suggest that distributive justice perceptions are better predictors of pay satisfaction than procedural justice perceptions, broadening these findings to bonus pay as well as 'general' pay. It is also interesting to note comparisons with the findings of Colquitt (2001) who considered the relationships between justice scales and outcome satisfaction. In the Colquitt et al. (2001) meta-analysis the authors found that distributive justice was more strongly related to outcome satisfaction, but informational justice predicts the greatest percentage of variance. This is partially in-line with our findings, which are supportive of the position that distributive justice has the strongest relationship, but in our research this aspect of justice also predicts the greatest amount of variance in bonus satisfaction (with informational justice predicting a relatively small amount of 1% compared with the 78% predicted by distributive justice).

Considering the potential mediating effects of justice in the relationship between bonus amount and both bonus satisfaction and turnover intention also offers a complex set of relationships (shown in Tables 16 and 17). The findings of this thesis offer some consistency with those of Shaw et al. (2002), and DeConinck and Stilwell (2004) who suggest that pay (and pay dispersion) impacts outcomes through the mediating variable of organisational justice, though it adds granularity to this finding by considering the different scales of justice. Rather than simply stating that justice mediates pay-outcome relationships, this research shows that though organisational justice mediates the relationships between bonus as a percentage of salary and both bonus satisfaction and turnover intention, organisational

justice does not mediate the relationships between bonus as an absolute amount and either bonus satisfaction or turnover intention. This may suggest that different appraisal mechanisms are used by participants for these two different bonus amount constructs. Considering the individual scales of justice, the results also shows that whilst some justice scales mediate pay-outcome relationships others do not. Distributive justice does not mediate the relationship between bonus pay (either as a percentage of salary or as an absolute amount) and either bonus satisfaction or turnover intention, whereas interpersonal justice does act as a mediator in these relationships. Procedural justice does not mediate the relationships between bonus as a percentage of salary and either bonus satisfaction or turnover intention but does mediate the relationships between bonus as an absolute amount and both bonus satisfaction and turnover intention. Conversely informational justice mediates the relationships between bonus as a percentage of salary and both bonus satisfaction and turnover intention, but does not mediate the relationships between bonus as an absolute amount and either bonus satisfaction or turnover intention.

#### 5.18.5. Bonus satisfaction and turnover intention

Bonus satisfaction forms the strongest predictor of variation in turnover intention. Together procedural and distributive justice account for more than 82% of the variation in bonus satisfaction. Interpersonal, procedural and distributive justice also have a direct effect on turnover intention, together predicting a further 4.5% of turnover intention than the 35% of the variance predicted by bonus satisfaction. As 17% of the variance in bonus satisfaction (the remainder not accounted for by justice scales) and 9.3% of the variance in turnover intention is predicted by referent selection this offers some interesting comparisons in terms of relative effects. When predicting variation in bonus satisfaction this gives a relative contribution from referents (17%) and justice (83%) components, and for turnover intention this gives a relative impact from justice (4.5%), referent (9.3%) and satisfaction (35%) components. All of the variance in bonus satisfaction is therefore accounted for by referent selection and organisational justice (with distributive justice proving the strongest predictor), and nearly half (48.8%) of the variance in turnover intention is accounted for by referent selection, justice directly, and bonus satisfaction (with bonus satisfaction proving the strongest predictor).

#### 5.18.6. Gender and position differences

The results demonstrate few differences overall across gender and position variables. Independent of gender or position, justice appraisals appear similar across groups and there are no significant differences between male and female or manager and non-manager participants across all justice scales. Similarly, no differences exist between participants when considering bonus satisfaction or turnover intention variables. In terms of significant differences, female participants tend more to be non-managers than male participants, and salary and bonus amounts for female participants tend to be lower than for male. Differences in bonus as a percentage of salary are non-significant, perhaps indicating that while salary and bonus amounts are lower, they are proportionally lower. Managers tend to earn significantly more than non-managers, and also receive higher bonus amounts than non-managers. It is perhaps unsurprising that managers earn more than non-managers given the additional responsibilities present with more senior roles in an organisational hierarchy. It is perhaps comforting to know that these positions do not appear to alter our fundamental appraisals in terms of the degrees of justice we perceive.

Another interesting finding from this research into intrapersonal difference is that there are significant differences in the referents chosen by participant groups. As bonus amount appears to play little role in justice, satisfaction and turnover intention appraisals, this thesis could be forgiven for concluding that groups follow similar appraisal processes. When the referents selected by gender and position groups are considered, however, the results show some significant differences. Male participants tend to choose 'in this company at my job level', 'what other employers are paying for this type of work', 'what I think I am worth' and 'others in this company at a higher level' more frequently than female participants. The process of self-evaluation described above may therefore be different for male and female participants, which may contribute to similar perceptions of bonus satisfaction based on significantly different salary and bonus payments. There is also the possibility, however, that as more male participants tend to be in managerial positions than female participants then both genders identify the additional work and skill required from these roles, and so are satisfied with these pay and bonus differences. Consistent with other research (e.g. Goodman, 1974) managers tend to consider 'what other employers are paying for my kind of work' more frequently, with this finding perhaps indicating the increased inter-organisational mobility in management positions, and perhaps more information availability about the labour market in general (Law & Wong, 1998).

Having summarised the first (cross-sectional) research investigation method and results, this thesis can now turn its attention to the second (experience sampling) research investigation. In the next chapter the thesis will outline the paths, components and hypotheses the experience sampling research investigation seeks to address, and explains the method used in the research. The thesis then discusses the results of this investigation and gives a summary of the findings. Whereas in this first investigation relatively straightforward analysis such as correlation analysis and regression analysis were employed to investigate the relationships between variables and address the hypotheses, as the second investigation employs repeated measures and experience sampling methods, alternative data analysis techniques are used. These will be introduced along with the hypotheses and relationships to be tested in the next chapter.

## 6. Study 2: Workplace Events, Organisational Justice, Affect, Social Exchange Relationship Quality and Turnover Intention

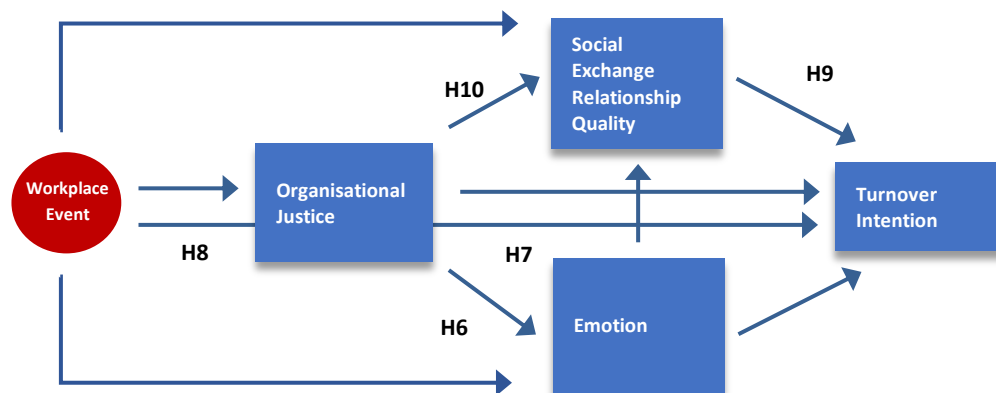


Figure 20. Understanding how the hypotheses map to relationships in the second research investigation.

### 6.1. Introduction

The second of the research investigations addressed by this thesis considers bonus pay as an organisational event. This study involves assessing the event, emotion, organisational justice, social exchange relationship quality and turnover intention related to this event. The research considers not only bonus pay as a workplace event, but a range of other workplace events drawn from extant literature and validated with participants as being salient to their organisation. This allows the research to develop a picture of the events, emotions and association with social exchange relationship and turnover intention over the research period. By considering a period during which a bonus payment is announced, the research captures the type and strength of emotion elicited within the sample, and the association this has with perceptions of organisational justice, social exchange relationship quality and turnover intention not only in isolation for bonus pay as an event, but also in comparison with other workplace events. This will provide both a within-person view of bonus payment, where the bonus paid forms an event in relation to the others which occur during the period of research, and a between-person view of bonus payment, where the research can compare processes between participants to test the generalisability of reactions. The research will also reveal whether bonus pay can be considered an affective event by traditional standards, in that it exerts an additive direct emotional effect over and above a cognitive effect (using social exchange relationship quality as this cognitive measure) on levels of turnover intention. The thesis has discussed the way in which the paths at the centre of this research

investigation address the overall hypotheses in Chapter 3, and Figure 20 highlights the relationships in this investigation, and how the hypotheses map to these relationships. This investigation addresses the research questions raised by Colquitt et al. (2013) with respect to the relationships between justice, social exchange relationship quality, affect (or emotions) and work outcomes (or in this case the proxy outcome of turnover intention). Over the next section the investigation will be introduced, and the method explained in more detail. This investigation will address the following hypotheses identified in the review of the literature (as also shown in Figure 20):

*H6a-6b: Organisational Justice appraisals as a result of bonus pay are positively related to (a) positive emotions and negatively related to (b) negative emotions.*

*H7: Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay.*

*H8a and 8b: Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship with turnover intention and (b) a unique effect above and beyond that of social exchange relationship quality on turnover intention.*

*H9: Organisational justice is positively related to social exchange quality, which in turn is negatively related to turnover intention.*

*H10: The relationship between justice and both social exchange relationship quality and turnover intention is mediated by positive or negative state affect.*

## 6.2. Appropriateness of the Research Design

Research designs which effectively assess affective (or emotional) responses are few in number, especially when interpersonal comparison is required. In order to investigate the range of variables using a controllable set of measures, to allow for the standardisation of information and to aid in our understanding of potential direction of relationship, a quantitative design is preferred. To build an understanding of size and potential direction of the event, affect, attitude-outcome formation linkage, an experience sampling method (ESM) using a repeated-measures, within-person difference capture approach was used. ESM offers five key epistemological and methodological advantages to researchers when considering the co-occurrence of emotional and cognitive appraisal. First, ESM provides

access to settings and subjective experiences we would otherwise have no means of assessing. Second, ESM offers proximity to and greater understanding of participants' experiences. Data are collected about participants as events are happening or in close temporal proximity to events, thus reducing retrospective biases. Third, ESM offers the opportunity to acquire understanding of large numbers of events experienced by participants in ways that add to the scope of what we can learn through qualitative studies. Fourth, the method offers the ability to study within-person processes, placing thoughts, emotions, and behaviour in specific contexts. Finally, for quantitative researchers interested in issues of statistical power, the repeated-measures nature of ESM approaches affords a level of statistical power that is difficult to acquire in other quantitative approaches. The reasons behind some of these details will be further discussed in the following sections.

#### 6.2.1. Statistical Reasons for ESM

For those engaged in quantitative research, statistical power can be increased either by increasing the number of participants or increasing the number of data points per person. The multiple repeated measures that characterize ESM add statistical power that enhances the ability to detect patterns of interest without large sample sizes. Repeated reports from each individual participant increase the reliability of the data, allowing researchers statistical power far greater than would normally be available without very large sample sizes. A "typical" but fairly modest ESM study might include 3 to 10 samplings per day for 1 to 4 weeks, resulting in 15 to 200 data collection points per participant, enabling a high degree of reliability and statistical power. Thus, ESM allows for the statistical power to examine complex relationships that influence experiences that might otherwise require hundreds if not thousands of participants. It also enables the addition of variability or variance as a focus of the research. As an example, ESM allows researchers to study the variability of participant emotion over time, not just average levels of mood. As an example of the type of findings which rely on this Witte et al. (2005) found through ESM data that it was the variability in depressive affect, rather than the intensity that best predicted suicidal ideation and actual suicide attempts with a college sample.

In terms of sample size and participant numbers, while there are no clear guidelines in the literature previous research offers some precedent for understanding research parameters. As sample size for ESM studies constitutes three levels: the number of subjects, the number of days observed and the number of measurements per day, power will depend on the combination of all three of these parameters. Adequate power is achievable with as few as 30 participants but requires either a greater number of measurements per day over a shorter

study period or with more days of observation when sampling fewer times a day (Carter, 2016). As such, simply increasing the number of participants is not the only way to increase power. Xanthopoulou et al. (2008) in an experience sampling investigation involving flight attendants used 44 participants over a three-month period (with data captured at 132 occasions over this period) using event-contingent sampling. Participant numbers as low as 20 have been used in other research conducted over 21 consecutive days (e.g. van Berkel et al., 2019) to effectively operationalise ESM research, with these 20 participants providing signal-contingent data six times daily leading to 2520 data points. In a clinical investigation Peters et al. (2012) used ESM to investigate symptoms in participants with psychosis using twelve participants completing an ESM questionnaire 10 times a day for six days. A similar protocol was used by Palmier-Claus et al. (2012), employing a sample of 27 individuals to investigate the association between instability of affect and suicidal ideation. As in the work of Peters et al. (2012), participants completed questionnaires 10 times a day for six days.

#### 6.2.2. Bias and Error Reasons for ESM

By assessing participants' experiences as they happen ESM research affords a substantial reduction in retrospective bias inherent in all self-report data (Kahneman & Krueger, 2006). In other words, experience-sampling data reflect participants' momentary affective, cognitive, and behavioural experience in a way that preserves the immediacy of the moment and gives participants less opportunity and motivation to present themselves as they might when reflecting retrospectively on earlier occurring experiences. For example, individuals typically misremember how much time they spent in or how they felt during different activities and contexts. When the immediacy of the moment is over, recollections of the experience are shaped and reshaped by a number of cognitive and reflective processes (Kahneman, 2011). There is substantial evidence that retrospective reports of past emotions, beliefs, and behaviour can be contaminated by memory errors, availability, recency, salience, implicit theories, and current affect (Schwarz et al., 2009). Although self-reported ESM data cannot eliminate all of the potential biases of self-report, research suggests that by asking people to report on their activities, affect, and actions in-situ and on many occasions, researchers may be able to get a more accurate picture than when asking participants to reflect backward over a period of time (Kahneman & Krueger, 2006). Robinson and Clore (2002, p. 935) note that "any delay between an experience and its report necessarily means a loss of information." Real-time reports of affect and experiences are considered more accurate than memory-based reports, with ESM being referred to as the "gold standard" for measuring state affect (Schwarz et al., 2009). ESM used longitudinally also allows us to study how individuals' thoughts, feelings, and actions are shaped either by time or in response to



events or stimuli along the way (e.g. bonus payment and other workplace events). Through repeated assessments of individuals over time in a number of contexts, ESM data are particularly well suited to answering questions about how individual perceptions change over time and to help us pinpoint the sources of those changes. Careful orchestration of the timing and data collection mechanisms allows us to look for both naturally occurring changes (for example changes in workplace behaviour as a result of broader environmental changes and trends) and changes that occur as the result of workplace events.

As well as the broad benefits of ESM already discussed, there are a number of drawbacks of the method, as summarised in Table 27. These drawbacks include potential for self-selection bias (a problem for all studies, but with the intensive nature of ESM there may be a propensity for certain types of individual to be over or under-represented), self-reporting bias (for example social desirability, cognitive biases and cultural norms influencing responses), and the need to motivate participants over the term of the study, with researchers discovering that some groups (e.g. those with poor concentration) may find it difficult to complete experience sampling studies (Wilson et al., 1997). Other drawbacks include the need to limit variables to reduce the burden of completing measures at numerous points during the day, and situational issues with data collection including quality of the data when collecting over multiple points in time. Some researchers (e.g. Stone et al., 1991) estimate that quality of data reporting declines after 2-4 weeks of data collection. Situational issues may also include selection problems, where participants may choose whether and what to respond to an experience sampling signal, and the potential for time lag between signal and response may introduce retrospective bias. Even for reasonably short periods of time research has demonstrated the attenuation of the intensity of emotion, and further research has shown that emotion has a significant effect on attitude formation (van den Berg et al., 2006). Finally, reactivity can be a drawback in ESM studies. Reactivity refers to the potential for any phenomenon under study to change as a result of measurement or reporting (Wheeler & Reis, 1991). The nature of ESM and the repeated measures used may cause people to pay unusual attention to workplace events as well as their emotions and attitudes. This is one reason for including a number of workplace events during the investigation, so that no single event gains undue attention from participants which alters the reporting of that event. There is also some evidence (e.g. Thomas & Diener, 1990) that repeated assessment of emotions may influence the recall of those emotions, making certain emotions more salient.

Table 27.

*Benefits and Drawbacks of Experience Sampling Methods. Source: Adapted from Scollon, Kim-Prieto, & Diener (2003)*

Benefits of ESM	Drawbacks of ESM
Investigates within-person processes	Self-selection and self-reporting bias
Provides ecological validity in real life	Need to motivate participants over term
Investigates contingencies of behaviours	Limited number of variables
Avoids certain bias (e.g. memory bias)	Situational issues with data collection
Provides for use of multiple methods	Reactivity

### 6.3. Research Design

Due to the balance of reasons outlined in section 6.2. a quantitative, experience sampling method was used. ESM allows for a single repeated measure to be deployed at various points during the day over a given period. There are several decisions to be made in undertaking ESM research, such as the signal type (if any) which informs participants to complete the measure, the frequency of the measure, the length over which to collect data, and the user experience in engagement, deployment, and feedback around the measure. Various researchers have spelled out the critical dimensions and best practice for addressing these decisions, with the most effective being Fisher and To (2012), who list a number of factors to consider detailed in Table 28. As some of these factors are dependent on participant attitudes (such as willingness to respond) the research design was developed and tested with participants during an initial engagement workshop. While a pilot study was proposed to participants at the outset of the research, the heads of participating organisational functions felt that this would not be necessary, in favour of an engagement workshop to act as a 'kick-off event' for the research. This approach has been shown to be effective in other research (e.g. Lancaster, Dodd, & Williamson, 2004). Factors such as communication and engagement mechanisms, signal design, number of follow-up meetings, length of the questionnaire, time for completion of the questionnaire, the choice of measures which form the questionnaire and the selection of relevant workplace events to be considered in the research were all decided in this initial engagement workshop. It was felt that this co-design, bounded by a set of clear principles, would improve the rate of response (as suggested by Fisher & To, 2012). Provided with options related to communications and

engagement, participants chose to be contacted by email, with additional weekly 30-minute update conference calls (involving all participants) to provide feedback and answer any potential questions for the duration of the research period.

Table 28.

*Best practice recommendations for conducting ESM and daily diary research (source: Fisher & To, 2012)*

Area	Best Practice
1	Plan a data collection schedule (reports per day, for how many days) and approach (interval, signal-based, event-based) that balances participant willingness to respond with the nature of the phenomenon being studied.
2	Consider power at all relevant levels to determine the number of responses per participant and the number of participants needed. Allow for missed signals and the effect of missed signals on lagged analyses when planning sample sizes.
3	Design short but reliable and construct valid measures that clearly specify the time interval on which to report (e.g., right now; since last signal) and that match the time frame in which the construct being measured would be expected to vary. Consider how best to provide reliability and validity evidence for these measures.
4	Pilot test the measures for clarity and time to complete in a group of people similar to the intended participants for at least several days. Ask about reasons for missing or non-compliant reports and adapt procedures accordingly.
5	Thoroughly pilot test the technology for signalling and capturing data, including having a small sample of participants try out the technology away from the laboratory. If using PDAs, have a few spares to replace those that fail or are lost.
6	Train participants thoroughly on why compliance is important, what questions mean, how and when to respond, what to do if a signal is missed or equipment malfunctions, and whom to call for help. If possible, have participants complete a practice report in the presence of the researcher.
7	Build a close and collaborative relationship with participants. Motivate them to respond regularly with gifts, incentives, encouragement, monitoring, feedback on response rate and survey progress, and means of preventing unduly delayed or batched responses.
8	Obtain expert statistical advice or training on how best to use multilevel modelling to test hypotheses.
9	Clearly report data collection and analysis procedures as per Stone and Shiffman (2002).

Other decisions made during the initial engagement workshop constrained the research design to be interval contingent, with the researcher providing an appropriate signal via text message that measures should be completed (as this fitted with organisational norms and practices). An interval contingent design with an additional signal was preferred over event or interval-only contingent design as participants preferred the structured nature of this design (a balance struck in the research as this design is more prone to memory biases; Fisher & To, 2012). The frequency of this signal was agreed at every 2 hours due to the balance between the need to satisfy statistical power requirements, the need for granular data giving a rich picture of workplace events, and the pragmatism required in completing repeat measures. It was proposed that data collection be facilitated by technology such as mobile phone application, but as described in more detail below the sponsors of the research in participant organisations (due to data privacy concerns) preferred that data be collected using paper diaries. Participants suggested that diaries should be A5 size so to limit bulk if they were to be carried throughout the workday, and that each page be pre-formatted with date and time information to reduce the burden of completion. Additionally, participants suggested limiting the number of workplace events to '11-15' when offered a choice between categories '0-5', '6-10', '11-15', or '16-20'. When considering the content and length of the questionnaire used in the research, participants selected from a range of measures to assess emotion, social exchange relationship quality, organisational justice and turnover intention (a summary of these measures is included in Table 29). It was decided that the length of the questionnaire should not exceed 20 questions taking into account the advice of other ESM researchers (e.g. Fisher & To, 2012), and the time for completion be no more than 2 minutes (once initial learning curves have been considered) which naturally limited the choice of measures presented to participants for preference selection. Guidance was given by participating organisations which stipulated that the investigation not be overly time intensive (and so costly to the participating organisations), and that the cognitive effort to complete the measure should be minimised to prevent attention being drawn from daily work tasks.

The principles developed which aided the design of the research are as follows:

- a) As the research is attempting to investigate identical reactions to variable events, it must deploy an identical measure both within – and across-person to capture each experience in an identical way.
- b) As the research is attempting to investigate emotions, the frequency must be tailored so as to capture the full impact of the event to reduce retrospective bias.

- c) Measures must be chosen which sit within the 20-question limit yet allow for a valid and reliable representation of all variables.
- d) Whilst rigour is required in design and deployment of the measure, the research must recognise that, potentially, it will be conducted with a number of partner organisations, and therefore the design must be flexible enough to encompass differing organisational policies, practices and requirements.

To further explain item d) above, an option for the deployment of the questionnaire used in the research was online administration (with responses via computer or mobile platforms). Following discussions with participating organisations it was determined that this was unfeasible. This was primarily due to data security concerns and issues with obtaining organisational approval for the use of third-party applications for capturing data. Although mobile applications have been shown to improve the user experience and participation in ESM research (Fusun & Zheng, 2013; Serrano-Puche, 2015; Isomursu, Tähti, Väinämö, & Kuutti, 2007) this choice of data collection technique was therefore discounted when designing this research. The application of principle d) meant that to gain the approval of partner organisations, the design reverted to printed paper-based diaries to capture data over the period of the study. Whilst this approach reduced efficiency and increased the need to enter data manually, it was a necessary concession to enable the sourcing of participants. Similarly, when co-designing the questionnaire with the first participant organisation, four of the items of the 8-item short form organisational justice scale (Elovainio et al., 2010) were modified or removed in the full questionnaire upon review by the head of function, reducing the number of items to 6. These modifications are discussed in more detail when considering the individual measures used later in this section and were a necessary compromise to retain participants.

Table 29.

*Measures tested during the initial engagement workshop*

Variable	Measures used during user testing in engagement workshop
State Affect	Product emotion measuring instrument - PrEMO (Desmet, 2005)
State Affect	Geneva Emotion Wheel – GEW (Sacharin, Schlegel, & Scherer, 2012)
State Affect	GRID instrument (Scherer, Fontaine, & Soriano, 2013)
Social Exchange	9 Item Short Form SPOS (Wayne, Shore, & Liden, 1997)
Social Exchange	7 Item LMX scale (Scandura & Graen, 1984)
Social Exchange	4 Item Social Exchange Relationship Scale – SERS (Colquit et al., 2014)
Turnover Intention	3 Item Measure (Irving, Coleman, & Cooper, 1997)
Turnover Intention	4 Item Measure (Nissly et al., 2005)
Turnover Intention	6 Item TIS-6 Measure (Bothma & Roodt, 2013)
Org Justice	5 Item Relational Justice Scale (Kivimaki et al., 2004)
Org Justice	10 Item Justice Scale (Gelens et al., 2014)
Org Justice	8 Item short form OJS (Elovainio et al., 2010)

#### 6.4. Method

Participants were sent an initial email from the head of function sponsoring the research two weeks prior to an initial engagement workshop, requesting their attendance at the engagement workshop (held on the premises of the participating organisation). At this initial engagement workshop the purpose of the research was shared, the research design was co-created, finalised and agreed with participants, and demographic and trait affect data was collected for each participant. While detailed analysis will not be included on trait affect in this investigation, it will be controlled for in this research due to the volume of previous literature which supports the link between trait and state affect (emotion). The initial demographic and trait affect data was collected using a paper survey consisting of demographic questions and the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). This survey is shown in Figure 22 later in this section. Following the initial engagement workshop and beginning at the start of the next working week participants completed quantitative surveys four times daily for a period of one calendar month or 21 working days (beginning at time T2 and ending at time T3 as shown in Figure 21). One-month is the maximum suggested time for conducting experience sampling research before which data quality degrades (Stone et al., 1991). During this one-month period the bonus of

each participant was announced to them in a controlled manner, with the date and time of the announcement aligned with the research. Process data was collected using an in-vivo interval and signal-contingent experience sampling methodology, also using a paper-based diary approach. Due to the month of the bonus announcement being different in the two participant organisations, it was not possible to conduct the research in the same month across both sets of participants, however the same method was used for data collection for both.

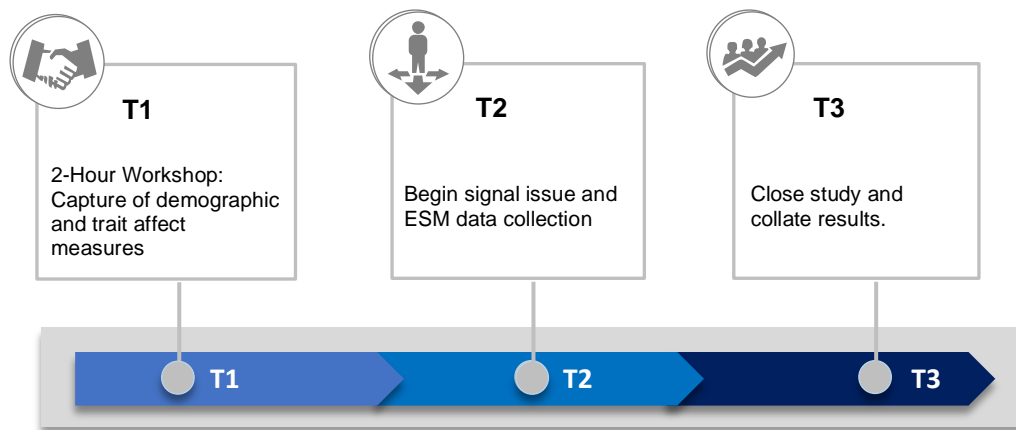


Figure 21. Timeline of events in the launch of the method

On each day during the research at the recurring times of 10:00, 12:00, 14:00 and 16:00 each participant was sent a text message requesting the completion of a repeated-measures questionnaire comprising of a battery of individual measures. These text messages were automated to reduce administrative burden. Each participant was issued with a pre-formatted diary consisting of 100 pages, with the date and time aligned with the research duration and pre-completed. Each diary entry spanned a single page (with a single page format demonstrated in Figure 25 in Section 6.6, where the measures and full questionnaire are discussed). Participants reported events from their work four times daily over a one-month calendar period for each of the working days within that period. Upon receiving the text message participants were directed to record the event which they felt had the greatest impact on work performance during the preceding 2-hour period, using a list of categories developed from extant research and selected by participants during the engagement workshop (the identification of the events included is described in more detail later in this chapter). Participants then identified the dominant emotion and the strength of this emotion elicited by the event using the Geneva Emotion Wheel, prior to completing measures to assess attitudes related to organisational justice, social exchange relationship quality and

turnover intention at the time of the event. Whilst some questions in the survey are related specifically to the event (such as the emotion elicited and the justice appraisal made), others are related to broader aspects of the work relationship (such as social exchange relationship quality), therefore the order of the questions in the survey was not changed in order to maintain this grouping and prevent confusion as to the subject of the question. A natural formatting partition in the survey was made to identify these event-specific and general questions. The primary independent variables were a) the participant taking part in the research and b) the workplace event taking place during the analysis. Mediating variables analysed were the emotion and strength of emotion elicited by the event, organisational justice and social exchange relationship quality, and the dependent variable is turnover intention.

## 6.5. Participants

Participants were salaried, full-time employees aged 18 or over who had worked for their employer for more than 12 months (as required within both participating organisations to receive a bonus). Participants were recruited from within roles where performance contingent bonus payments are made once annually, and bonus payments traditionally form more than 5% of the salary earned. This homogeneity was ensured by approaching distinct organisational divisions or areas where recruitment criteria could be tested. Although this was felt to somewhat limit the generalisability of the research as participation is limited by both organisation and distinct functions within these organisations, the fact that the research was conducted in two unrelated divisions of two unrelated organisations offers some (though limited) support for the generalisability of the approach. Various organisations were approached to participate in the research. This approach was primarily made by directly emailing those in personal and co-worker networks in the author's capacity as a management consultant. In total over three hundred prospective participants were emailed. Secondary meetings (either face to face or over the telephone) were then conducted with those who showed an interest in participation by responding to the initial email. In total sixteen secondary meetings were held with potential participant organisations. Of these sixteen organisations, the heads of function in two distinct functions in two distinct organisations agreed to participate in the research (named INSCO and MEDCO throughout this thesis as this refers to the primary industry the participants are involved in – insurance and medical devices respectively). As sensitive insight can be gained from the information provided, non-disclosure was a pre-requisite for the research, therefore the anonymity of participants is maintained throughout this thesis. Though many saw value in the research, the majority of those approached felt that the prevailing risk around the generating and



sharing of organisational data for research purposes, as well as the setting of expectations within the research participant population that organisational practices may change as a result of the research outweighed the clear informational and analytical benefits of participation. The research was conducted during a period of scrutiny on data privacy in organisations, with General Data Protection Regulations (GDPR) developed but not yet implemented, increasing the perceived risk of participation. The two participating heads of function agreed to provide sponsorship and support both in terms of individual participant engagement, individual participant selection, and access to resources such as branding, systems and personal assistants. They also agreed to provide a short, anonymised description of their function and organisation and their main purpose for inclusion, shown in Table 30. This sponsorship supported the research as documents were able to be branded to enable materials to be consistent with participating organisations livery (and so be perceived as officially sponsored research), to gain access to internal systems for arranging conference calls for follow-up and feedback meetings, to gain access to participant calendars to minimise disruption and check holiday plans, and to arrange scheduling of signals directly with personal assistants therefore minimising the workload of individual participants.

Individual participants were selected by each head of function in both organisational participants. It is difficult to judge how objective the selection was, though the head of function was given guidance for selection in the form of specific criteria listed below. The heads of function were also able to confirm that:

- a) all participants receive information about their bonus pay for the year at the same time (i.e. with the announcement made to individuals within a few days of each other), in the same format, and so consistency of process is maintained
- b) bonus pay is contingent on performance and job grade, and so differences in bonus pay amounts exist across and between participants

Each head of function was asked to engage participants meeting certain criteria:

- a) They are able to commit to the research over the period, and so have no intersecting plans for holiday absence
- b) They have strong attendance and limited sickness absence during the past year
- c) A representative sample of gender, position and bonus award across the function
- d) Perceived high levels of conscientiousness, shown to predict the ability to maintain focus on the research over the period (Rogelberg et al., 2003)

Initially forty-three people were selected as participants for the research, with organisation 1 (INSCO) contributing 26 participants and organisation 2 (MEDCO) contributing 17. A breakdown of the participants is given in Table 31.

Table 30.

*Summary provided by heads of function from each participating organisation*

Organisational Participant	Summary
1 (INSCO)	Our function is an underwriting function within a global insurance provider with about 120 people. We are a traditional organisation, slow to change, but with a strong brand and heritage with headquarters based in Switzerland. We mainly face inwards, servicing brokers and other parts of our organisation, rather than having direct customer relationships. The main pressures on our function are adoption of technology and constant search for efficiencies. Our job apart from that has not changed much in the past twenty years. Our people are getting older, and there are limited new entrants into our function. The new people we attract leave at quite high rates, so our reason for participating is to better understand the employee experience to begin to understand why this is happening.
2 (MEDCO)	We are the sales function of the orthopaedic division of a large global medical company. The company is a household name that has a strong history. In our particular part of the business we have 350 people providing a full service to surgeons and hospitals wishing to use our medical devices. Most of our people are client facing and work in hospitals and clinics across the country, though they do come back to Head Office about once every couple of weeks. They tend to specialise in terms of the products they sell or support. Churn is high in our function, at about 30% per annum, which is a considerable drag on our profit and growth. It's hard for us to see what people go through in our job, and what the source of discontent is so I think this will help us to build a richer picture for our people and help us to address some of the issues.

Table 31.

*INSCO and MEDCO Participants*

Participants	INSCO	MEDCO
Total	26	17
Manager	18	11
Non-Manager	8	6
Male	16	12
Female	10	5

Note:  $N = 43$ 

Table 32.

*Final INSCO and MEDCO Participants*

Participants	INSCO	MEDCO
Total	21	10
Manager	18	9
Non-Manager	3	1
Male	14	7
Female	7	3

Note:  $N = 31$

Whilst the research investigation began with 43 participants, due to the nature of ESM it was completed with 31 participants (21 from INSCO and 10 from MEDCO). Of the 12 participants who failed to complete the study, 4 cited illness for periods of more than 5 days, 3 explained that they had forgotten for a period, then lost motivation, and 4 contacted the author to withdraw due to additional workload (or the additional interruption and cognitive load the task introduced to the day). A single participant who failed to complete the study could not be contacted and therefore no information was provided as to reasons for non-completion. The final participant numbers are detailed in Table 32 along with their demographic details. Participants in the research tend to be in managerial positions, and more male than female participants took place in the research. While participant numbers are relatively low, they are in line with previous ESM research (e.g. Peters et al., 2012; van Berkel et al., 2018) and have a similar sample size when daily frequencies and timescales are considered with 2480 data points gathered during the research.

## 6.6. Instrument and Measures

Due to the diverse nature of the constructs under investigation (event, affect, social exchange relationship quality, justice, turnover intention) a questionnaire was developed from a battery of measures. Because of methodological limitations in the number of variables allowed in ESM (as detailed in Section 6.2.), measures were selected for statistical properties (validity and reliability), length, number of scales and ease of completion. A range of appropriate measures were selected by the author to form a long-list, from which the actual measures used were selected by participants in an initial engagement workshop. Attention was paid to the way in which the data collection process was experienced by participants and testing and feedback was conducted during this workshop to allow for optimisation of design and delivery of the questionnaire. This process was conducted in the main due to the advice of Fisher and Tso (2012), detailed in Table 28, which suggests forming a collaborative relationship with participants and designing short but reliable and construct valid measures.

Due to the interaction between trait and state affect in the literature (e.g. Merz & Roesch, 2011) participants were assessed for their level of trait affect at the outset of the research (as well as capturing demographic data relating to participants). Trait affect by its definition is perceived to be a stable construct and an assumption was made in this research that assessing this once at the outset (as in previous research such as that conducted by Watson et al., 1988) would be sufficient. Rather than focusing here on each of the measures presented during the initial engagement workshop (detailed in Table 29), this thesis will

focus on the nature and properties of the measures selected by participants for the study proper.

#### 6.6.1. Demographics and Trait Affect

Demographic information including age, gender, length of service and managerial position was captured at the outset of the investigation using a pre-formatted survey (time T1 as shown in Figure 21). This survey is included as Figure 22. These demographic data are chosen as they demonstrate relationships in existing literature with organisational justice and social exchange relationship quality and repeat those captured during previous research by Colquitt et al. (2013), thus allowing some comparison across research. Trait affect was also assessed at the outset (time T1) using the Positive and Negative Affect Schedule scale (PANAS, Watson et al, 1988). The PANAS survey asks participants to rate how they generally feel across all situations using 20 affective terms (e.g. interested, guilty, proud, nervous, and active) with 10 terms positive and 10 negative. The measure uses a scale of 1 to 5, where 1 is 'not at all' and 5 is 'extremely', and mean scores are developed for positive affect and negative affect across these terms. Watson et al. (1988) report Cronbach's alpha coefficients for the various time reference periods ranging from .86 to .90 for the Positive Affect scale and .84 to .87 for the Negative Affect scale. Test-retest correlations for an 8-week period ranged from .47 to .68 for Positive Affect, .39 to .71 for Negative Affect. The scale authors also reported evidence for the validity of the PANAS. While this thesis will not discuss the relationships between trait affect and other variables to a great extent, it will control for this and provide details of relationships in the results as previous research has supported an underlying link between trait and state affect.

## TouchPoint Study *Understanding our experience at work.*

Welcome to TouchPoint. This is the first part of the study, where we'll be collecting some initial information about you, and your typical emotional states. Please answer honestly - all information is treated in a highly confidential manner. We look forward to working with you over the next month to understand your experience of the workplace.

<b>ID</b>	<input type="text" value="INS12"/>	<b>Length of service</b>	<input type="text"/>	Years
<b>Company</b>	<input type="text" value="INSCO"/>	<b>Gender</b>	<input type="text" value="Male"/> <input type="text" value="Female"/>	
<b>Age</b>	<input type="text"/>	Years	<b>Position</b>	<input type="text" value="Manager"/> <input type="text" value="Non-manager"/>

The scale below consists of a number of words that describe different feelings and emotions. Read each item and then place a score next to each word. Indicate to what extent you have felt this way over the past week.

<b>Not at all</b>	<b>A little</b>	<b>Moderately</b>	<b>Quite a bit</b>	<b>Extremely</b>
<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="5"/>

	Score		Score
Interested	<input type="text"/>	Irritable	<input type="text"/>
Distressed	<input type="text"/>	Alert	<input type="text"/>
Excited	<input type="text"/>	Ashamed	<input type="text"/>
Upset	<input type="text"/>	Inspired	<input type="text"/>
Strong	<input type="text"/>	Nervous	<input type="text"/>
Guilty	<input type="text"/>	Determined	<input type="text"/>
Scared	<input type="text"/>	Attentive	<input type="text"/>
Hostile	<input type="text"/>	Jittery	<input type="text"/>
Enthusiastic	<input type="text"/>	Active	<input type="text"/>
Proud	<input type="text"/>	Afraid	<input type="text"/>

Thank you for completing this survey

Figure 22. Demographic data collected, along with PANAS scale. Source: Watson et al. (1988)

Table 33.

*Workplace events reported in existing literature.*

Category of Affective Event	Source
Acts of Colleagues	Basch & Fisher (2000)
Acts of Management	Basch & Fisher (2000)
Goal Achievement	Basch & Fisher (2000)
Receiving Recognition	Basch & Fisher (2000)
Acts of customers	Basch & Fisher (2000)
Making mistakes	Basch & Fisher (2000)
Influence or control	Basch & Fisher (2000)
Involvement in decision making	Basch & Fisher (2000)
Pay system reform	Tenhiala & Lount (2013)
Any contact between a person and his/her environment	Elfenbein (2007)
Leadership behaviours	Dasborough (2006)
Economic events and conditions	Brief & Weiss (2002)
Temperature, noise, and aromas	Isen & Baron (1991)
Noise	Isen & Baron (1991)
Aromas	Isen & Baron (1991)
Colours and Symbols	Rafaeli & Vilnai-Yavetz (2004)
External factors (such as family concerns)	Brief & Weiss (2002)
Identity challenges	Boudens (2005)
Fairness	Boudens (2005)
Discrimination	Boudens (2005)
Conflict	Boudens (2005)
Violations of norms and trust	Boudens (2005)
Ideology-based disagreements	Boudens (2005)
Actual or potential on-the-job death and injury	Boudens (2005)
Humiliation	Boudens (2005)
Accomplishment	Mignonac & Herrbach (2004)
Praise from Supervisors/Co-workers	Mignonac & Herrbach (2004)
Being assigned undesired work	Mignonac & Herrbach (2004)
Departure of a well-liked co-worker	Mignonac & Herrbach (2004)
Interpersonal conflicts with supervisors and co-workers	Mignonac & Herrbach (2004)
Verbally aggressive customers	Grandey, Dickter, & Sin (2004)
Technical Problems	Pirola-Merlo, Härtel, Mann, & Hirst (2002)
Insufficient staffing	Pirola-Merlo, Härtel, Mann, & Hirst (2002)
Funding shortages	Pirola-Merlo, Härtel, Mann, & Hirst (2002)
Excitement of having creative ideas	Amabile, Barsade, Mueller, & Staw (2005)

## TouchPoint Study *Understanding our experience at work.*

Welcome to TouchPoint. In order for us to effectively target our investigation on the events which happen in your organisation we need to gather some information. Please indicate the frequency of occurrence and degree of impact on performance of each of the following workplace events. Using the scale below enter the score in each of the Frequency and Performance columns related to each event.

	Never / Not at all	A little	Sometimes / Moderately	A lot / High	Frequently / Very high
	1	2	3	4	5

	Frequency	Performance
Acts of Colleagues		
Acts of Management		
Goal Achievement		
Receiving Recognition		
Acts of customers		
Making mistakes		
Influence or control		
Involvement in decision making		
Pay system reform		
Any contact between a person and his/her environment		
Leadership behaviours		
Economic events and conditions		
Temperature, noise, and aromas		
Noise		
Colours and Symbols		
External factors (such as family concerns)		
Identity challenges		
Fairness		
Discrimination		
Conflict		
Violations of norms and trust		
Ideology-based disagreements		
Actual or potential on-the-job death and injury		
Humiliation		
Accomplishment		
Praise from Supervisors/Co-workers		
Being assigned undesired work		
Departure of a well-liked co-worker		
Interpersonal conflicts with supervisors and co-workers		
Verbally aggressive customers		
Technical Problems		
Insufficient staffing		
Funding shortages		

Thank you for completing this survey

Figure 23. Long list survey of potential affective events to be shortlisted by participants



### 6.6.2. Workplace Events

Participants recorded the workplace event which they felt had the greatest impact on their performance whilst at work over each successive two-hour period (at 10am, 12pm, 2pm and 4pm). In order to enable repeatable assessment, categories of events in the workplace were developed from extant research. These categories, along with their sources, are listed in Table 33. A wide range of potential stimuli is listed including sensory stimuli such as aromas or noise, organisational stimuli such as system or process involvement, appraisals such as justice or humiliation, and specific actions related to organisational actors, such as acts of customers or acts of managers. The workplace events included in the research were determined in two stages, the first stage to gain agreement of how many workplace events to include in the research, and the second to prioritise the specific workplace events for inclusion. During the initial engagement workshop, participants selected '11-15 events' when asked how many to include when provided categories between 1 and 20 (with categories presented as 1-5, 6-10, 11-15, 16-20), therefore limiting the number of events for inclusion. To identify these 11-15 events workshop participants were asked to report the events which happened to them most frequently each day, and the events they felt had the most significant impact on their performance (either positive or negative) using a 5-point Likert type scale. These events presented to participants were drawn from Table 33. These two scores were then multiplied to provide an indication of the workplace events to be included. The measure for this is included as Figure 23. The data collected during the engagement workshop was aggregated and used to develop a short form measure of affective events occurring in the workplace.

To operationalise the categories of workplace event in the research, participants were asked to identify the category which most accurately matched the source of event which had the strongest impact on the workplace performance of the participant over the previous 2 hours, and to indicate this by placing a mark in a box adjacent to this category. An additional space in the questionnaire was included for 'other' events though this space was not used by participants. Guidance was given to focus on only one event at a time every 2 hours. While participants selected 11-15 events as a preference, 13 events are included as the subsequent 4 events obtained the same score in the engagement workshop and so were omitted as this would have pushed the number of events up to 17 if included. Following the recording of the event, the participant was then asked to record the dominant emotion which this event elicited. The final format for input of the event is shown in the combined questionnaire in Figure 25 later in this chapter.

There are three limitations to this approach in developing workplace events for inclusion. The first is that self-reporting events which have an impact on performance may not be accurate, and different events may have a differential impact on various measures of performance. The second of the limitations of this research is that when MEDCO was recruited to the research, rather than seek to refresh this review of workplace events germane to the organisation, the head of function for MEDCO chose instead to use those events selected by INSCO participants. Whilst the drawbacks of using this approach were discussed with participants at the time it was felt that in order to effectively recruit MEDCO as a participant compromises were required, and this was in keeping with our research principles. The third limitation is that some workplace events listed may apply to a single situation and are not mutually exclusive. As an example, the workplace events of 'acts of colleagues' and 'violation of trust' are not mutually exclusive as certain acts of colleagues may in themselves be acts which violate trust. Guidance was therefore given to participants to select the most appropriate event in these circumstances, which could introduce bias.

#### 6.6.3. Affect (Emotion)

In organisational settings affect (or emotion) measures typically consist of questionnaires which are customized for the objectives of the research (e.g. Doherty, 1997; Pekrun et al., 2011; Scherer, 2001; Caicedo & van Beuzekom, 2006; Isomursu et al., 2007). These broadly represent a list of emotions (ranging in number from 12 to 40) from which participants are asked to choose the most relevant for the situation. In recent years there has been a move toward the creation of more complex emotion measures, incorporating not only type of emotion but also strength. For the purpose of this research the strength of emotional reaction is important, as is the granularity of the emotion under investigation. Affective events research in the past has often considered broad categories of affective events and emotions but has often missed critical variables, for example Basch and Fischer (2000) considered 20 emotions and 27 affective events in their investigation to develop an affective event-emotion matrix, though the researchers did not consider the additional dimension of strength of emotion. Similarly, Colquitt et al. (2013) considered the strength of 'positive state affect' and 'negative state affect' as emotional categories representing broad groups of emotions and their relationship to organisational justice but failed to investigate distinct emotions. There are few researchers who have considered all of these elements of multiple events, distinct emotional reactions and the strength of these emotions in existing research, especially when related to justice. If this thesis wishes to understand the nature of organisational events, especially specific events such as a bonus payment, then it must also understand the strength of specific emotions elicited by the event (Mikula et al., 1998). To be

able to say that one workplace event is an affective event, whereas another may not be an affective event, is to say that an event not only elicits an emotion, but that the emotion has an effect on outcomes, therefore suggesting strength may be an important variable (Weiss & Cropanzano, 1996).

When choosing an effective measure of emotion which allows for an appropriate granularity of emotion and the ability to measure strength of emotion (as well as being preferred due to the clarity of structure and intuitive design) participants to the engagement workshop selected the Geneva Emotion Wheel (GEW; Scherer, 2009). The measure (as shown in Figure 24) is an emotion self-report tool which assesses the type of emotion experienced across two axes: High control/Low control and Negative valence/Positive valence (Scherer, 2009). There are 20 emotional terms listed in total situated in positions around the emotion wheel in relation to these two axes. The strength of each emotion can be assessed on a rating based on the position indicated on the wheel, from 'no emotion felt' or 'other emotion felt' (scored 0) to the maximum strength of emotion (scored 5). These relative strengths are indicated by circles with increasing areas, with the participant placing a mark in the most appropriate circle. The GEW has been used in studies across academic fields and in varied empirical settings. Tran (2012) used the GEW in a collective decision-making process, observing that team members used the measure to discuss their emotions and keep track of changes in the emotional climate. Other emotional research has deployed the measure when assessing reactions to social media (e.g. Sintsova et al., 2013) and internet videos (Bardzell et al., 2008) with success. There are instances of other more advanced pieces of neurological research which have linked self-report measures using the GEW to more advanced physiological measures of emotion such as EEG (Electroencephalogram) readings (Blaiech et al., 2013). In marital research, the 3-week test-retest stability of the GEW has been shown to be above 0.9 consistently (Nilforooshan et al., 2013). Research using the measure has found Cronbach's alpha values of between 0.80 and 0.86, higher than similar measures currently used across emotional research (Schlegel & Scherer, 2016).

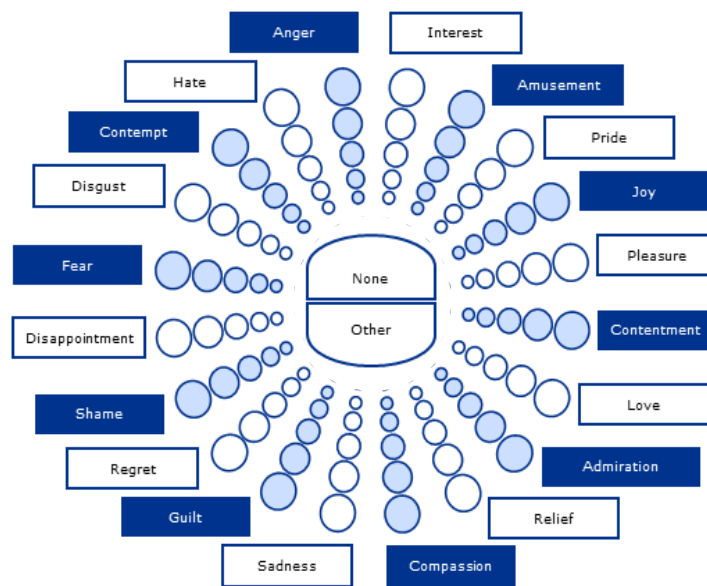


Figure 24. The Geneva Emotion Wheel. Source: Sacharin, Schlegel, & Scherer (2012)

The GEW offers a measure of both the emotion type and emotion strength reported by participants during the investigation. This allows the investigation of discrete emotions elicited as a result of workplace events. The nature of the GEW however does not lend itself to analysis such as meditation and regression as it considers each emotion separately. In order to facilitate further analysis considering emotions therefore two additional mechanisms are used in the research. A combined emotion measure was developed from the GEW to provide a single measure of both type and strength of emotion. This measure is referred throughout the analysis as 'Emotion Score' and involves transforming the GEW results to provide a single score which describes both the emotion state and the emotion strength (though this crudely reduces the results returned by the GEW to a single scale of affect). Similarly, separate scores for positive and negative state affect are used to test relationships (similar to the analysis used by Colquitt et al., 2001), where positive affect represents all positive emotions, and negative affect all negative emotions. The inclusion of state positive and negative affect is made to counter the objection from some researchers that positive and negative emotions cannot be treated as polar states of emotion (therefore rendering the emotion score scale questionable theoretically) which are symmetrically distributed around the 'no emotion' condition (e.g. Watson & Tellegen, 1985), though this is disputed by some (e.g. Russell & Carroll, 1999) who maintain the existence of a single bipolar continuum for positive and negative feelings. While the inclusion of emotion score and positive and

negative affect variables will not allow the research to investigate the effect of discrete emotions, they will allow for the testing of Hypotheses 5, 7 and 9 which deal with the effects of emotion as broad construct rather than the effects of individual emotions. The GEW results are transformed into the Emotion Score by developing a continuous scale for emotion with negative emotions representing scores from 1-5 (with 1 being the strongest negative emotion strength and 5 the weakest negative emotion strength), followed subsequently by positive emotions representing scores from 6-10 (with 6 being the weakest positive emotion and 10 the strongest positive emotion). This transformation is shown in Table 34.

Table 34.

*GEW scores transformed into Emotion Score used to test the effect of emotion state and strength.*

	Strength of emotion for negative emotions (negative affect)					Strength of emotion for positive emotions (positive affect)				
GEW (original results)	5	4	3	2	1	1	2	3	4	5
Emotion Score (transformed)	1	2	3	4	5	6	7	8	9	10

#### 6.6.4. Social Exchange Relationship Quality

Assessing social exchange relationship quality provides a different challenge to other variables, not least because of the complexity involved in reconciling measures of social exchange relationship quality with the original construct describing social exchange relationships. Previous research points to two main sources of social exchange: individuals within the organisation (for example supervisors, managers) often conceptualised as leader member exchange (LMX), and the organisation itself (in terms of organisational behaviour, systems, processes etc) typically described as perceived organisational support (POS). Measures have therefore developed which have tended to specialise on one or the other of these sources (e.g. Graen & Uhl-Bien, 1995; Wayne et al., 1997; Settoon et al., 1996). There is current research which demonstrates a lack of content validity with the construct of social exchange relationship quality as measured using common surveys related to POS and LMX (Colquitt et al., 2014). Colquitt et al. (2014) found that the majority of measures (and specifically perceived organisational support) were not content valid with Blau's (1964) original concept of social exchange relationships. In their work investigating the content validity of commonly used social exchange relationship quality indicators Colquitt et al. (2014) found one measure to be more content valid than others, the Social Exchange Relationship Scale, or SERS (Colquitt et al., 2014). The SERS is a four-item measure consisting of a single statement and four items: my relationship with my organisation is characterized by - Mutual obligation, Mutual trust, Mutual commitment, and Mutual significance. Each of these four statements is assessed on a 5-point Likert-type scale from 1 – 'strongly disagree', to 5 – 'strongly agree'. It was selected by participants to the engagement workshop predominantly due to its brief and intuitive content and strong psychometric properties. The SERS measure is described as 'a worthy option for future exchange-based research' (Colquitt et al., 2014, p. 610).

### 6.6.5. Turnover Intention

Instead of trying to accurately and objectively assess performance impacts of workplace events and subsequent psychological mechanisms, the proxy indicator of turnover intention was chosen for reasons outlined in the review of the outcomes in existing literature in Chapter 2 of this thesis. Three measures of turnover intention were discussed with participants during the initial engagement workshop, with participants eventually selecting the short form 6-item measure (TIS-6; Bothma & Roodt, 2013) of the 15-item Turnover Intention Scale (TIS, Roodt, 2004) due to its intuitive nature, small number of items, and the perception that other measures were not content valid. This offers the research the opportunity to anchor the two separate investigations with a common measure, as the TIS-6 is also the measure included in the first investigation (chosen for similar reasons that participants selected the measure in this case). The measure is therefore described in more detail in Section 4.6.4. A summary of the items is given in Table 35.

Table 35.

*Turnover Intention Survey TIS-6 items. Source: Bothma and Roodt (2013).*

Item	Summary
1 <sup>a</sup>	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?
2 <sup>a</sup>	How often have you considered leaving your job?
3 <sup>a</sup>	How often do you dream about getting another job that will better suit your personal needs?
4 <sup>b</sup>	How likely are you to accept another job at the same compensation level should it be offered to you?
5 <sup>c</sup>	To what extent is your current job satisfying your personal needs?
6 <sup>d</sup>	How often do you look forward to another day at work?

a - Scale: 1 = Never to 5 = Always

b - Scale: 1 = Highly unlikely to 5 = Highly likely

c - Reverse coding used. Item mean scale 1 = To a very large extent to 5 = To no extent.

d - Reverse coding used. Item mean scale 1 = Always to 5 = Never.

#### 6.6.6. Organisational Justice

The most commonly used measure of organisational justice is the organisational justice scale (OJS) developed by Colquitt (2001) and used in the first research investigation of this thesis. One of the main problems in evaluating co-occurrences of affective events and justice appraisals has been the lack of feasible short-form survey instrument for measuring organisational justice. This is especially important in assessing justice at points coincident with affective events (Elovainio et al., 2010). Due to this gap in available measures, especially when researching justice in large-scale epidemiologic investigations, a range of short justice measures have begun to appear in literature, though most are self-developed by the authors. Three of these which have received support and reach appropriate levels of reliability (Cronbach's alpha above 0.7) were tested with participants in the initial engagement workshop; the five-item relational justice scale (Kivimaki et al., 2004) as used in the Whitehall II Studies, the ten-item scale used by Gelens et al. (2014) and the eight-item short version of the OJS developed by Elovainio et al. (2010). In this workshop participants selected the short-form OJS as the most appropriate measure as it offers a complete view of justice as a construct and is both intuitive to complete and applicable in various event-driven situations. Both the OJS (Colquitt, 2001) and the short form version (the OJS-8; Elovainio et al., 2010) offer comparable psychometric properties of the scales and of their structure observed in two large, representative groups of working populations in Finland, in studies where selection effects are unlikely (goodness-of fit index > 0.90, adjusted goodness-of fit index > 0.90, root mean square error of approximation <0.8) (Elovainio et al., 2010). The items of the OJS-8 are shown in Table 36. Although the OJS was the preferred measure, when the final combined questionnaire was sent for approval to the head of function and research sponsor of INSCO (the initial participant organisation) changes were requested to the measure. While the OJS-8 contains 8-items and discriminates between distributive, procedural and informational justice scales, the head of function suggested that while items 1-3 (shown in Table 36) were acceptable, items 4 and 5 should be combined to a single item 'Everyone was treated with dignity and respect', and items 7 and 8 should be combined into a single item 'I feel I get as much out of this as I put in'. The 8-item measure was therefore reduced to 6-items. This 6-item measure is represented in the combined questionnaire in Figure 25. One of the effects of altering the number of items of the measure was that it is not clear whether the measure effectively discriminates between justice scales (for example distributive justice as a scale is left with a single item). Instead of treating justice as the distinct scales of procedural, interpersonal and distributive justice as originally intended by the OJS-8 this research therefore reports the results as the aggregated construct of organisational justice without interrogating these distinct scales.



Table 36.

*The short form organisational justice scale (OJS-8) items. Source: Elovainio et al. (2010)*

Item	Measure	Summary
1	Procedural	Have you been able to express your views and feelings during those procedures?
2	Procedural	Have those procedures been applied consistently?
3	Procedural	Have those procedures been free of bias?
4	Interpersonal	Has your supervisor treated you with dignity?
5	Interpersonal	Has your supervisor treated you with respect?
6	Interpersonal	Has your supervisor seemed to tailor his/her communications to individuals' specific needs?
7	Distributive	Does your (outcome) reflect the effort you have put into your work?
8	Distributive	Is your (outcome) appropriate for the work you have completed?

#### 6.6.7. Combined Questionnaire

The combined questionnaire for capturing participant responses was delivered in a two-staged process. The first stage captured demographic details and participant trait affect. This information was collected only once during the research, using a form similar to that shown in Figure 22 (though this form is unbranded for anonymity purposes in order to comply with non-disclosure requirements of participant organisations), in paper format at an initial engagement workshop for participants. The second stage involved the collection of data by participants every two hours over a one-month period using an experience sampling method, with data collection via a preformatted paper diary (with a single diary page shown in Figure 25, again in an unbranded version). Each page of the paper diary formed a single questionnaire for completion, formatted to collect the following information:

1. Temporal information, detailing the date and time of entry. As the date of initiation of the research is known, this was pre-completed to reduce participant effort.
2. Workplace event, requesting participants to choose from a pre-formatted list of 13 workplace events, or enter an event not covered by the list into a space marked 'other'.

3. Emotion, asking participants to note on the Geneva Emotion Wheel the type and strength of dominant emotion elicited in conjunction with the workplace event.
4. Organisational justice, asking participants to complete a shortened 6-item version of the short form OJS (initially 8 items), a 6-item measure using a 5-point Likert scale.
5. Social Exchange Relationship, requesting participants to complete the social exchange relationship scale (SERS), a 4-item measure again operationalised in a 5-point Likert scale.
6. Turnover Intention, asking participants to complete the TIS-6, a measure consisting of 6 items using a 5-point Likert scale, though with varied scale extremes.

In total, if the choice of event and completion of the GEW is considered each as a single item, the composite questionnaire contains 20 items. This length of questionnaire was acceptable to participants (as tested during our initial engagement workshop), and the completion of the survey did not require a marked increase in attention or cognitive effort and took less than two minutes for each entry. Conventional wisdom suggests that up to five signals per day for a week should require responses of no more than two to three minutes each (Hektner, Schmidt, & Csikszentmihalyi, 2007). An anonymised (unbranded) version of the questionnaire is shown in Figure 25. Each questionnaire forms a single page of the diary issued to participants to collect data throughout the duration of the research. Items were reformatted and reworded in the final questionnaire following feedback from participants to follow the same Likert-type scale and use language better suited to participant needs.

# TouchPoint Study *Understanding our experience at work*

Entry 88/88

Welcome to Touchpoint. Thank you for completing this entry in your diary, and helping us to make a better workplace for you and your colleagues. All of your entries are important as they help us to build up a true picture of what happens to you at work, so keep it up!

Time: 10am	Acts of colleagues	
	Acts of management	
Date: 1 <sup>st</sup> November 2016	Acts of customers	
	Non-financial recognition	
	Financial recognition	
	Fairness or discrimination	
	Violation of trust	
	Conflict	
	Ability to influence	
	Process involvement	
	Technical/system involvement	
	Development	
	Goal Achievement	
	Other	

Please reflect on events which have happened at work over the past two hours and complete the following information in the order presented. Reflect on your emotions and choose the event and emotion which has been most significant to you and which has remained strongly in your memory. If it's not there, write a brief description in 'Other'.

Once you have noted the type of event and emotion this has elicited, please complete the questions below using the scale indicated. All answers are confidential, so please be honest in your response. The first 5 questions relate to the event, and the remainder are general questions about your work relationship.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I was able to express my views and feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that I was treated consistently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that things were handled in a way which was free of bias	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Everyone was treated with dignity and respect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was communicated with in a manner which I felt appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel that I get as much out of this as I put in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm often frustrated when I can't achieve my own work-related goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have often considered leaving my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm likely to accept another job at the same money if it was offered to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My current job is satisfying my personal needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often look forward to another day at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often dream about getting another job that suits me better	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My relationship with [ ] can be characterised as mutual obligation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My relationship with [ ] can be characterised as mutual trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My relationship with [ ] can be characterised as mutual commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My relationship with [ ] can be characterized as mutual significance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing this entry

Figure 25. Combined Questionnaire deployed. Source: Author.

## 6.7. Sampling, administration and limits

All research was conducted in-situ in the everyday workplace of the participants, and though there is potential for bias to exist the author is unaware of any explicitly. There may be sampling bias present due to the nature of the sampling approach. The participant organisations were clear that one of their requirements from the research was to gain a deeper understanding of the workplace experiences of their workforce. They therefore retained the ability to select participants for the study. This was mitigated by providing directions and guidelines for selecting participants, and asking for participant organisations to confirm that these guidelines had been met (Sedgewick, 2013). Within naturally occurring work teams there may also be biases present, therefore in studying existing teams in-situ the research is naturally open to limitations (with some authors suggesting biases are required for the formation of group dynamics; Parks, 2018). There is also an increased risk of reactivity when sampling a whole team or function (as discussed in section 6.2.2.). Reactivity refers to the potential for any phenomenon under study to change as a result of measurement or reporting. The natural propensity for participants to discuss the research can change perceptions towards the study (Wheeler & Reis, 1991). In administration, in dealing with organisations, part of the benefit to the organisation is the learning gained about the theoretical underpinnings of the research. Both organisations were clear that as part of the engagement all participants were taken through the research in an engagement workshop prior to the research, including detailing expected outcomes. It is unclear whether this workshop would act as a mechanism to prime or influence outcomes, however this is one of the best practice undertakings in ESM research identified by Fisher and To (2012).

## 6.8. Data analysis and tools used

Data analysis was carried out with the use of Microsoft Excel version 1805 (which provides valuable assistance with case screening and other associated processes) and IBM SPSS version 24 (which provides the analysis engine for the descriptive statistics, analysis of relationships and multilevel modelling). While other packages exist for conducting multilevel modelling (e.g. R, MLwiN, Mplus) when the analysis includes only two levels SPSS has been shown to produce similar results without the need to employ additional software (Albright & Marinova, 2015). A summary of how the analysis plans to address each of the hypotheses pertinent to this research is given in Table 37. As noted by Elfenbein (2007) there is value to be gained in emotional research in reporting descriptive statistics such as the frequencies of workplace events and emotion, and so this thesis will also devote a part of the data analysis to less powerful, but no less revealing techniques. The data returned by experience

sampling methods or diary studies can be seen as ‘unbalanced and hierarchical, with uneven numbers of observations nested within participants’ (Fisher & To, 2012, p. 9). The authors, in their thorough review of data analysis techniques for experience sampling methods, point to a number of analytical pitfalls including suggesting that repeated responses returned by the same individual cannot be treated as if they are independent and the multilevel structure of the data must be taken into account in the analyses. Level 1 observations are a function of both within-person and between-person factors, and the variance due to both sources must be carefully modelled. Fisher & To (2012) suggest that 2-level models are most commonly used to analyse data returned by ESM, with Level 1 being within person and Level 2 being between person. The authors also note, however, that 3-level models are sometimes required if (for example) persons who respond repeatedly are also nested within work groups such as INSCO and MEDCO participants in our research, or if signal-level reports are nested within days (where there are day-level variables and hypotheses) and days are nested within persons. With the multilevel approach a sufficient sample size is required at each level of analysis (Heck et al., 2014) therefore in this research given both INSCO and MEDCO provide small sample sizes at Level 3 the analysis will be limited to 2-levels. Each of the variables maps to one of these levels as shown in Table 38.

Table 37.

*Hypotheses and proposed statistical procedure to be used*

Hypothesis	Variables	Statistical Procedure
H6a, 6b	Organisational justice, state positive affect, state negative affect	<ul style="list-style-type: none"> <li>• Correlation analysis.</li> <li>• Multilevel modelling</li> </ul>
H7	Emotion, Event	<ul style="list-style-type: none"> <li>• Frequency analysis</li> <li>• Chi Square Goodness of Fit</li> </ul>
H8a, 8b	Event, Turnover intention, Social exchange quality	<ul style="list-style-type: none"> <li>• ANOVA</li> <li>• Frequency analysis</li> <li>• Multilevel modelling</li> </ul>
H9	Organisational justice, social exchange quality, turnover intention	<ul style="list-style-type: none"> <li>• Correlation analysis</li> <li>• Multilevel modelling</li> </ul>
H10	Organisational justice, Social exchange quality, Turnover intention, Emotion	<ul style="list-style-type: none"> <li>• Multilevel modelling</li> <li>• Bootstrapping (using PROCESS Macro for SPSS)</li> </ul>

Table 38.

*Level 1 and Level 2 variables*

Level	Variables
Level 1	Event Type
Level 1	Emotion Type
Level 1	Emotion Strength
Level 1	Emotion Score
Level 1	Organisational Justice
Level 1	Social Exchange Relationship
Level 1	Turnover Intention
Level 2	Participant
Level 2	Age
Level 2	Position
Level 2	Gender
Level 2	Organisation
Level 2	PANAS Positive Score
Level 2	PANAS Negative Score

*Note: Number of L1 variables = 2480 (repeat measures), Number of L2 variables = 31*

In order to effectively analyse the multilevel data, this research will therefore use hierarchical linear models providing the data is suitable for multilevel modelling. In order to determine this an unconditional (no predictors) model was run on each Level 1 variable to find out how much of the variance in each is within-person versus between-person. This test is described in the results section detailed in the next chapter. As the test shows that considerable variance exists at both levels, multilevel modelling is appropriate and so will be used. To further confirm this finding, the chi squared values for the appropriate degrees of freedom for models with and without participants as subjects in a linear mixed model were compared. The analysis shows that significant variance exists between models with and without participants as a Level 2 variable, therefore supporting the view that multilevel modelling is appropriate. The following chapter describes the results of this modelling. Firstly, the results chapter covers case and variable screening, followed by the descriptive statistics and frequencies returned during the experience sampling research. The results chapter then provides detail of the multilevel modelling approach along with the estimates returned by the analysis for all events and for bonus pay (or financial recognition as it is coded in the analysis) as a specific event.

## 7. Results of Study 2: Experience Sampling Study

Chapter 7 reports the results related to the experience sampling study. The chapter addresses both general findings and specific hypotheses which the research is designed to address (H6a and b, H7, H8a and b, H9 and H10, as detailed in Chapter 6 and highlighted in Figure 26). The chapter begins by explaining data screening procedures, then goes on to explain the descriptive statistics for the investigation including reporting the frequencies of both event and emotion reported by participants. The analysis then addresses the multilevel nature of the data collected, testing whether considerable variance exists at both levels considered in this research (level-2 being individual participant and level-1 the variables investigated at an individual level in the research). To further understand the variables to be addressed in this research a variable catalogue is included as Table 60 in Appendix 2. This allows this research to refer to each variable by its data label throughout the investigation.

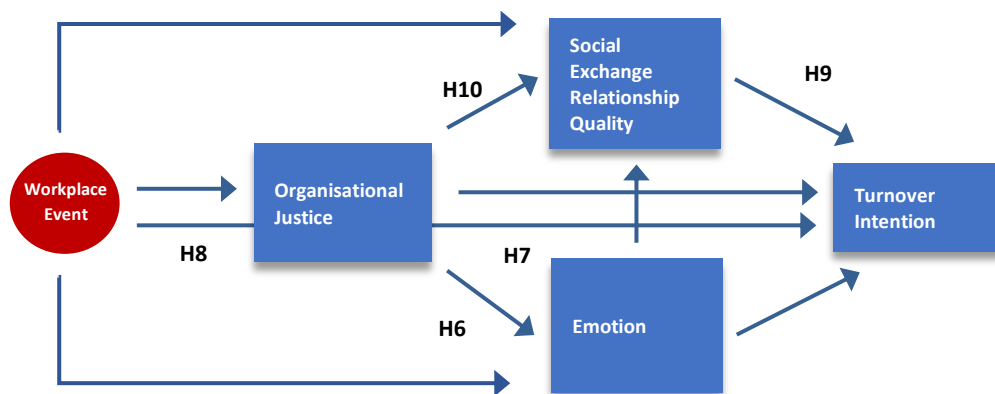


Figure 26. Variables considered in the experience sampling research along with proposed direction of relationships.

### 7.1. Case Screening

Following the removal of all participants who were unable to complete the study responses were screened for missing data in each row, unengaged responses (or responses where participants have answered the same for each item), and outliers on the continuous variables (in this case age and length of service). An initial analysis of each participant (represented as rows in the data set) showed that the incidence of missing values was low

with only two missing items across all participants, meaning that no responses were required to be removed. An analysis of the standard deviation of each participant showed that only three participant responses (of a potential 2480) had standard deviations lower than 0.5 (although an arbitrary number, this figure indicates when participant responses on each Likert scale tend to be the same for all items when recording an event and the subsequent appraisals). A further interrogation of these standard deviations of responses indicated a broadly engaged participant, so each of these three responses were retained. Finally, an interrogation of the continuous variables in the data set (age and length of service) showed no outliers.

## 7.2. Variable Screening

Considering all data, two missing values were observed for the variable of distributive justice (both missing values were in the responses of a single participant). In order to impute these responses surrounding values of the other indicators for the latent factor organisational justice were interrogated, and the mode value for that participant (and for that specific event) used to impute the missing values. The analysis is therefore continued with a complete data set. In terms of skewness and kurtosis, reasonably normal distributions were observed for the majority of indicators of latent factors and for all other variables in terms of skewness (e.g. age, sex, length of service). Mild skewness was, however, observed for indicators of procedural justice (OJ2 and OJ3 as described in our variable catalogue in Appendix 2, Table 60), indicators of social exchange relationship quality (SE1) and for the variable of position (whether manager or non-manager). These skewness values ranged from -1.2 (for SE1) to 2.2 (for position). Mild negative kurtosis was observed for emotion type and also for indicators of procedural justice (OJ1), distributive justice (distJ), and for indicators of turnover intention (TI3, TI5, TI6 and TI7) and social exchange relationship quality (SE3 and SE4). As well as indicators of latent variables, mild kurtosis was also observed for the variables of gender and position. These kurtosis values ranged from -1.6 (for SE3) to 2.9 (for position). While these values do violate strict rules of normality, they are within the range of more relaxed rules suggested by Sposito et al. (1983) who recommends 3.3 as the upper threshold for normality.



### 7.3. Descriptive Statistics

Due to the array of measures, timescales and groups under investigation there is a vast potential pool of descriptive statistics that can be reported as a result of this research. As well as considering frequencies of event and emotion, differences across companies (to understand differences between INSCO and MEDCO participants), positions (manager or non-manager) and gender (male or female) can also be reported. This thesis will attempt to limit the statistics reported to those germane to the hypotheses. The mean, median, skewness and kurtosis statistics of the data is reported in Table 39. The mean age of participants is 36.97 years old. Average length of service of participants is 4.87 years. Participants in general reported higher levels of positive trait affect than negative trait affect, and in general (with a mean of 8.74, where positive emotions refer to the first ten items of the Geneva Emotion Wheel and negative emotions the last ten), the emotions elicited during the research are positive (though the standard deviation is large at 7.04 indicating a broad range). Emotional strength reported is on average 2.16 (out of a potential maximum of 5). Mean emotion score is 5.74 suggesting a very weak positive emotion on average when using the transformation criteria outlined in Table 34. In terms of the variables of organisational justice, social exchange relationship quality and turnover intention, the mean values show an overall positive perception of justice (with a mean of 3.61), but slightly negative perceptions of social exchange relationship quality (with a mean of 2.84). As mean results for turnover intention are close to the 'neutral' position in the questionnaire (with a mean of 2.99 returned) this indicates that participants who tend to agree with statements related to turnover intention are balanced by those by tend to disagree, suggesting a moderate level of interest in turnover.

Table 39.

*Descriptive Statistics Showing Means, Standard Deviations, Skewness and Kurtosis Results <sup>a</sup>*

	Min	Max	Mean	Median	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
<i>Level 1 (within person)</i>									
Emotion Type <sup>1</sup>	1.00	20.00	8.74	5.00	7.04	.50	.05	-1.36	.10
Emotion Strength	1.00	5.00	2.16	2.00	.94	.45	.05	-.55	.10
Emotion Score	1.00	9.00	5.74	6.00	1.91	-.47	.05	-.79	.10
Organisational Justice	1.00	5.00	3.61	3.83	.91	-.79	.05	.17	.10
Social Exchange Quality	1.00	4.25	2.84	2.75	.67	.18	.05	-.61	.10
Turnover Intention	1.00	5.00	2.99	3.00	.88	.01	.05	-.82	.10
<i>Level 2 (between person)</i>									
Company	1.00	2.00	1.32	1.00	.47	.76	.05	-1.4	.10
Age	26.00	58.00	36.97	35.00	8.91	.89	.05	-.15	.10
Length of Service	1.00	12.00	4.87	4.00	2.86	.47	.05	-.66	.10
Sex	1.00	2.00	1.32	1.00	.468	.76	.05	-1.42	.10
Position	1.00	2.00	1.13	1.00	.34	2.22	.05	2.91	.10
Positive Trait Affect	2.10	4.10	3.01	3.00	.51	.23	.05	-.94	.10
Negative Trait Affect	1.80	3.30	2.63	2.60	.36	-.01	.05	-.25	.10

<sup>a</sup> N (Level 1) = 2480, N (Level 2) = 31

<sup>1</sup>Note: Whilst variables such as emotion type are categorical, they reveal trends in emotion further explained in the text

#### 7.4. Frequency of Event

Looking at overall event frequency for the total sample detailed in Table 40, 'Acts of colleagues' appears as the most frequent event reported by participants, with 27.7% of participants reporting this as the event most impactful to performance to have occurred over the preceding two hours of organisational life, followed by 'Acts of managers', with a frequency of 19.6% of the total number of events, and 'Acts of customers' with 12.5%. The cumulative percentage of these three events is 59.9%. Subsequent events contribute only single figure percentage to the cumulative and can also be seen in Table 40, with 'Process involvement' the next highest frequency (with 9% of events) followed by Development (with 5.7% of event) and 'Financial recognition' (the coding for bonus pay in this research with 5.1% of events). It is interesting to note that although financial recognition is only a one-off event, with bonus pay announced only once to each participant over the research period and therefore 31 times (as there are 31 participants), it is reported at a higher frequency (with 127 incidences) than events such as 'Ability to influence' and 'Non-financial recognition'. This indicates that as an event it is reported on average 4.1 times per participant (with 12 participants reporting the event 3 times, 8 participant 4 times, 7 participants 5 times and 4 participants 6 times), which indicates (given that there are 4 events recorded per day) that bonus pay is an event which remains the most important to performance for participants on average for more than 24 hours, as they continue to report it on average more than 4 times after it has been announced.

In order to investigate whether event types reported are significantly different across groups a series of independent sample t-tests were conducted. The analysis is conducted for company and gender only as groups as numbers of non-managers is small (at four) therefore findings for this group may be unreliable. The results of the t-tests for participants of the different companies is shown in Table 41 and for male and female participants in Table 42. Significant differences exist between companies for the frequency of response of Acts of colleagues, Acts of managers and Acts of customers, as well as Goal achievement as events. Participants from INSCO reported significantly higher frequency of Acts of Colleagues, Acts of Managers and Goal Achievement, but significantly fewer Acts of Customers than participants from MEDCO. This would perhaps be expected given the summaries in Table 30, describing the nature of INSCO as inward-facing but MEDCO as customer-facing. Male and female participants do not report significant differences in the frequencies of any of the events researched suggesting that there are no significantly meaningful differences in the events experienced by different genders in the research.

Table 40.

*Frequency of event reported*

Event	Frequency	Percent	Cumulative Percent
Acts of Colleagues	687	27.7	27.7
Acts of Managers	487	19.6	47.3
Acts of Customers	311	12.5	59.9
Non-financial recognition	69	2.8	62.7
Financial Recognition	127	5.1	67.8
Fairness or Discrimination	71	2.9	70.6
Violation of trust	39	1.6	72.2
Conflict	96	3.9	76.1
Ability to influence	101	4.1	80.2
Process Involvement	224	9.0	89.2
Technical involvement	62	2.5	91.7
Development	142	5.7	97.4
Goal Achievement	64	2.6	100.0
Total	2480	100.0	

*Note: N = 2480*

Table 41.

*Welch's t-test and means for INSCO (N = 21) and MEDCO (N=10) responses for frequency of event*

Event	INSCO (N = 21)		MEDCO (N = 10)		<i>t</i>	<i>df</i>	<i>p</i>
	Mean	SD	Mean	SD			
Acts of Colleagues	25.00	5.80	16.20	2.25	6.06**	28.35	.000
Acts of Managers	17.38	2.64	12.20	2.20	5.38**	29	.000
Acts of Customers	5.00	5.05	20.60	2.37	-11.71**	29	.000
Non-financial recognition	2.33	1.28	2.00	0.67	0.95	28.62	.348
Financial Recognition	4.24	1.09	3.80	1.03	1.06	29	.297
Fairness / Discrimination	2.00	1.82	2.90	2.38	-1.17	29	.253
Violation of trust	1.24	1.51	1.30	1.06	-0.12	29	.908
Conflict	2.81	1.60	3.70	0.68	-1.68	29	.104
Ability to influence	3.29	1.52	3.20	1.14	0.16	29	.876
Process Involvement	6.81	3.30	8.10	1.73	-1.43	28.58	.164
Systems Involvement	2.19	1.60	1.60	1.27	1.02	29	.315
Development	4.86	2.41	4.00	1.56	1.02	29	.316
Goal Achievement	2.86	2.41	0.40	0.52	4.46**	23.55	.000

Note: N = 2480

\* $p < .05$ . \*\* $p < .01$ .

Table 42.

*Welch's t-test and means for Male (N = 21) and Female (N = 10) responses for frequency of event*

Event	Male (N = 21)		Female (N = 10)		<i>t</i>	<i>df</i>	<i>p</i>
	Mean	SD	Mean	SD			
Acts of Colleagues	21.86	6.14	22.80	7.32	-0.38	29	.710
Acts of Managers	15.62	3.15	15.90	4.28	-0.21	29	.838
Acts of Customers	10.57	8.57	8.90	8.96	0.50	29	.620
Non-financial recognition	2.33	1.20	2.00	0.94	0.77	29	.447
Financial Recognition	4.10	1.09	4.10	1.10	-0.01	29	.991
Fairness / Discrimination	2.62	2.04	1.60	1.90	1.33	29	.194
Violation of trust	1.52	1.50	0.70	0.82	1.97	28.24	.059
Conflict	3.05	1.40	3.20	1.55	-0.27	29	.786
Ability to influence	3.14	1.24	3.50	1.72	-0.66	29	.513
Process Involvement	6.71	2.22	8.30	3.95	-1.19	11.79	.259
Systems Involvement	2.33	1.65	1.30	0.82	1.86	29	.073
Development	4.24	2.34	5.30	1.70	-1.28	29	.212
Goal Achievement	1.90	2.12	2.40	2.76	-0.55	29	.585

Note: N = 2480

\* $p < .05$ . \*\* $p < .01$ .

## 7.5. Frequency of Emotion

Frequencies, strengths and standard deviations related to the distinct forms of emotion elicited during the research are detailed in Table 43. Results are provided for all events in aggregate as well as for the specific event of financial recognition (the event coding in the research for bonus pay). Pleasure is the most frequent emotion elicited in participants across all events (with 17.5% of emotions reported being Pleasure), followed by Anger (17.4%), Disappointment (14.1%), Interest (12.9%) and Pride (12.8%). A number of emotions are reported relatively few times and have a frequency below 1% including Love (with 0% frequency), Hate (with a frequency of 0.2%), Compassion (with 0.4% frequency), both Guilt and Shame (with a frequency of 0.6% each) and Fear (with a frequency of 0.9%). The remaining emotions contribute only single figure frequencies to the cumulative total. When considering cumulative percentages, 61.3% of reported emotions are positive and 38.7% negative. In terms of mean strength of emotion for all events Love returns the highest result with a mean strength of 4, though this is based on a single occurrence. The subsequent strongest mean emotions are reported for Fear (Mean = 3.52, SD = 0.59), Disgust (Mean = 3.50, SD = 0.86), Hate (Mean = 3.50, SD = 1.00) and Shame (Mean = 3.27, SD = 0.59).

Considering all emotional responses to financial recognition as an event, 21.2% of responses are positive emotionally, with 78.8% of responses indicating negative emotion. These figures slightly overstate the negative reactions to bonus pay at the individual level where 22.6% of the initial emotional reactions to financial recognition were positive and 77.4% were negative. These differences indicate that negative emotions tend to be reported for longer than positive emotions as a result of financial recognition. The most frequent positive emotion elicited is Contentment, with 10.2% of responses. Anger (with 31.5% of emotions reported) and disappointment (with 44.9%) make up the majority of emotions reported as a result of bonus pay. It is interesting how stark the frequency of negative emotion is when comparing bonus pay to workplace events taken as a whole. Over 78% of emotions are negative for bonus pay, compared with just over 38% for all events. In terms of the mean strength of emotion for financial recognition as an event, Pleasure returns the highest mean (Mean = 4.00, SD = 0), though this is based on only two responses. The subsequent strongest mean emotions are reported for Anger (Mean = 3.85, SD = 0.70), Joy (Mean = 3.75, SD = 0.50), Disgust (Mean = 3.67, SD = 0.58), Relief (Mean = 3.67, SD = 0.58) and Pride (Mean = 3.60, SD = 0.55).

Table 43.

*Frequency and strength of emotion reported for all events and for financial recognition as a distinct event*

Emotion	For All Events (N = 2480)					For Financial Recognition (N = 127)				
	Mean Strength	SD	Frequency	Percent	Cumulative Percent	Mean Strength	SD	Frequency	Percent	Cumulative Percent
Interest	2.01	0.75	321	12.9	12.9	0	0	0	0.0	0
Amusement	2.06	0.73	233	9.4	22.3	0	0	0	0.0	0
Pride	2.24	0.89	317	12.8	35.1	3.60	0.55	5	3.9	3.9
Joy	2.57	0.98	54	2.2	37.3	3.75	0.50	4	3.1	7
Pleasure	1.72	0.79	435	17.5	54.8	4.00	0	2	1.6	8.6
Contentment	2.47	0.63	45	1.8	56.7	2.92	0.49	13	10.2	18.8
Love	4.00	0	1	0.0	56.7	0	0	0	0.0	18.8
Admiration	2.39	0.65	36	1.5	58.1	0	0	0	0.0	18.8
Relief	2.67	0.81	70	2.8	61.0	3.67	0.58	3	2.4	21.2
Compassion	1.67	0.50	9	0.4	61.3	0	0	0	0.0	21.2
Sadness	1.94	0.70	48	1.9	63.3	0	0	0	0.0	21.2
Guilt	2.69	0.87	16	0.6	63.9	0	0	0	0.0	21.2
Regret	2.85	1.01	26	1.0	65.0	0	0	0	0.0	21.2
Shame	3.27	0.59	15	0.6	65.6	0	0	0	0.0	21.2
Disappointment	2.13	0.97	349	14.1	79.6	3.49	0.83	57	44.9	66.1
Fear	3.52	0.59	23	0.9	80.6	0	0	0	0.0	66.1
Disgust	3.50	0.86	26	1.0	81.6	3.67	0.58	3	2.4	68.5
Contempt	3.15	0.93	20	0.8	82.4	0	0	0	0.0	68.5
Hate	3.50	1.00	4	0.2	82.6	0	0	0	0.0	68.5
Anger	2.34	1.12	432	17.4	100.0	3.85	0.70	40	31.5	100.0

Note: N (all events) = 2480, N (Financial Recognition) = 127



Although considering the frequencies and strengths of emotion can provide valuable insight, it is also worth investigating the multilevel nature of emotional responses to a single event in more detail. While the bonus award is only announced once for each of the 31 participants in the research, the number of responses to financial recognition is 127. This suggests that financial recognition is reported as a salient event more than four times on average for each participant. The emotional responses to financial recognition are reasonably complex as can be seen in Table 44. This shows that emotions change over time, and whilst anger (for example) may be the primary emotion elicited, this emotion changes in nature to become disappointment in subsequent recordings. Similarly, though joy can be the initial emotional response, this can change in time to become contentment. The difference between these primary and overall emotional responses will be discussed during the testing of hypotheses 6 (anger will be the most frequent emotional response as a result of bonus pay) in section 7.6. While not the focus of this research this time-based emotional response may offer a valuable avenue of research for future study.

As with the recording of events, group differences in the type and strength of emotion elicited in the workplace can also be considered as part of this research. Differences in frequencies of emotion and strength of emotion between companies (INSCO and MEDCO) for all events are shown in Tables 45 and 46. Differences in frequencies and strength of emotion between gender (male and female) are shown in Tables 47 and 48 respectively for all events. Again, differences in position (whether manager or non-manager) are omitted due to the low number of manager participants. Only significant differences are shown in these tables due to the number of emotion variables across groups. As the results show, there are significant differences in the types of emotion between companies. INSCO employees in general report the emotions of Joy, Pleasure, Disgust and Anger more frequently than MEDCO employees, who in turn report the emotions of Interest, Contentment, Relief, Regret and Disappointment more frequently than INSCO employees. INSCO participants report generally stronger emotions of Shame and Disappointment than MEDCO employees, but weaker emotions of Interest, Pride, Joy, Pleasure, Admiration, Regret, Disgust and Anger. The gender of participants appears to have less of an influence on the significant differences in frequency of emotion reported, with male participants reporting increased frequency of only one emotion, that of Regret, when compared with female participants. While female participants report generally stronger levels of the emotion Interest than male participants, male participants report higher mean strengths of the emotions Fear and Anger than female participants.

Table 44.

*Emotion reported by each participant in order of time from the initial bonus announcement (primary emotion)*

Participant	Emotion Recorded					
	1	2	3	4	5	6
1	Anger	Disappointment	Disappointment	Disappointment	-	-
2	Anger	Anger	Disappointment	Disappointment	-	-
3	Disappointment	Disappointment	Anger	Disappointment	-	-
4	Anger	Anger	Disappointment	Disappointment	-	-
5	Disappointment	Disappointment	Disappointment	-	-	-
6	Disgust	Disgust	Disgust	-	-	-
7	Disappointment	Disappointment	Disappointment	-	-	-
8	Anger	Anger	Anger	-	-	-
9	Pride	Pride	Contentment	-	-	-
10	Disappointment	Disappointment	Disappointment	-	-	-
11	Anger	Anger	Disappointment	Disappointment	Disappointment	
12	Contentment	Contentment	Contentment	-	-	-
13	Anger	Anger	Disappointment	Disappointment	Disappointment	-
14	Anger	Anger	Anger	Disappointment	Disappointment	Disappointment
15	Anger	Anger	Anger	Anger	Disappointment	Disappointment
16	Disappointment	Disappointment	Disappointment	Disappointment	-	-
17	Disappointment	Disappointment	Disappointment	Disappointment	Anger	-
18	Anger	Anger	Anger	Disappointment	Disappointment	Disappointment
19	Pride	Pride	Pride	Contentment	Contentment	-
20	Relief	Relief	Contentment	Contentment	Contentment	-
21	Disappointment	Disappointment	Disappointment	Disappointment	Anger	-
22	Joy	Joy	Contentment	Contentment	Contentment	-
23	Anger	Anger	Disappointment	Disappointment	-	-
24	Anger	Anger	Anger	Anger	Disappointment	Disappointment
25	Pleasure	Pleasure	Contentment	-	-	-
26	Anger	Anger	Anger	-	-	-
27	Disappointment	Disappointment	Disappointment	-	-	-
28	Relief	Joy	Joy	-	-	-
29	Anger	Anger	Anger	Disappointment	-	-
30	Disappointment	Disappointment	Disappointment	-	-	-
31	Anger	Anger	Anger	Disappointment	-	-

Note: N = 127, Each emotion related to financial recognition is recorded consecutively with no intervening events

Table 45.

*Welch's t-test for INSCO (N = 21) and MEDCO (N=10) responses for frequency of emotion*

Emotion	INSCO (N = 21)		MEDCO (N = 10)		<i>t</i>	<i>df</i>	<i>p</i>
	Mean	SD	Mean	SD			
Interest	8.48	5.65	14.70	4.11	-3.11**	29	.004
Joy	2.29	1.62	0.80	1.03	2.65*	29	.013
Pleasure	18.05	11.52	5.90	3.28	4.47**	25.74	.000
Contentment	0.62	0.92	2.70	2.75	-2.44*	9.97	.042
Relief	0.81	0.93	5.10	2.08	-6.24**	10.75	.000
Regret	0.48	1.08	1.60	1.27	-2.57*	29	.016
Disappointment	10.05	5.11	13.20	2.82	-2.21*	28.17	.036
Disgust	1.14	1.20	0.30	0.68	2.07*	29	.048
Anger	15.38	5.66	10.60	2.01	3.44**	27.69	.002

Note: N = 2480, \**p* < .05., \*\**p* < .01.

Table 46.

*Welch's t-test for INSCO and MEDCO responses for strength of emotion*

Emotion	INSCO			MEDCO			<i>t</i>	<i>df</i>	<i>p</i>
	N	Mean	SD	N	Mean	SD			
Interest	174	1.91	0.80	147	2.14	0.68	-2.76**	319	.006
Pride	227	2.05	0.87	90	2.72	0.75	-6.44**	315	.000
Joy	46	2.39	0.91	8	3.63	0.74	-3.63**	52	.001
Pleasure	376	1.60	0.71	59	2.51	0.80	-8.95**	433	.000
Admiration	15	1.87	0.52	21	2.76	0.44	-5.62**	34	.000
Regret	10	2.30	1.06	16	3.19	0.83	-2.38**	24	.026
Shame	8	3.63	0.52	7	2.86	0.38	3.24*	13	.006
Disappointment	217	2.22	1.05	132	2.00	0.80	2.17*	329.85	.031
Disgust	23	3.43	0.90	3	4.00	0.00	-3.03**	22.00	.006
Anger	323	2.12	1.10	106	3.01	0.91	-8.32**	212.98	.000

Note: N = 2480, \**p* < .05., \*\**p* < .01.

Table 47.

*Welch's t-test for Male (N = 21) and Female (N = 10) responses for frequency of emotion*

Emotion	Male (N = 21)		Female (N = 10)		<i>t</i>	<i>df</i>	<i>p</i>
	Mean	SD	Mean	SD			
Regret	1.14	1.39	0.20	0.42	2.85**	26.30	.008

Note: N = 2480, \**p* < .05., \*\**p* < .01.

Table 48.

*Welch's t-test for Male and Female responses for strength of emotion*

Emotion	Male			Female			<i>t</i>	<i>df</i>	<i>p</i>
	N	Mean	SD	N	Mean	SD			
Interest	208	1.94	0.76	113	2.14	0.73	-2.28	319	.023
Fear	12	3.75	0.45	11	3.27	0.65	2.07	21	.049
Anger	304	2.41	1.13	128	2.16	1.10	2.07	430	.039

Note: N = 2480, \**p* < .05., \*\**p* < .01.

## 7.6. Testing Hypothesis 7: anger will be the most frequent emotional response as a result of bonus pay

Hypothesis 7 (that anger will be the most frequent emotional response as a result of bonus pay) can be tested by considering the frequency of emotion related to the specific event of financial recognition reported by participants. The results of this analysis are shown in Table 43. For financial recognition as an event 'disappointment' is the most frequent emotion (with 44.9% of events involving financial recognition associated with disappointment), followed by 'anger' (with 31.5% of events involving financial recognition associated with this emotion). This finding is however somewhat as a result of multiple emotions being recorded by individual participants for financial recognition as an event. As Table 44 demonstrates, although 'disappointment' is the most frequent emotion when considering all emotions related to financial recognition, 'anger' is the most frequent primary emotion (i.e. the first emotion) recorded by participants as a result of their bonus award. At this specific point 45.2% of emotions are reported as anger, followed by 29.0% reported as disappointment (with 6.5% reported as both pride and relief, and 3.2% as joy, pleasure, contentment and disgust). These initial emotions change over time, with 12 of the 31 participants initially feeling anger, only for this emotion to migrate to become disappointment over time (perhaps as a result of this initial anger dissipating or allowing time for participants to reappraise their bonus award). In order to test whether these frequencies are significant, a chi-square goodness of fit test was performed. As this test relies on assumptions of independence and mutual exclusivity the test was performed on the primary emotion only. The results indicate a significant difference in emotion as a result of financial recognition, ( $X^2 = 43.581$ ,  $N = 31$ ,  $df = 7$ ,  $p < .01$ ) providing partial support for hypothesis 7. Anger is the most frequent primary emotional response as a result of bonus pay, and this response is significantly different to other responses. It is not however the most frequent emotional response as a result of bonus pay, as this is disappointment.

## 7.7. Relationships Between Variables

Table 49 shows correlations between the variables included in this research. Demographic variables show some expected and unexpected relationships. There is a reasonably strong relationship between age and length of service ( $r = .79, p < .01$ ) and a weaker relationship between age and managerial position ( $r = -.33, p < .01$ ) which would perhaps be expected (in terms of direction if not magnitude). Age is also to a small magnitude significantly negatively related to positive trait affect (positive TA), indicating that as participants get older their levels of positive trait affect decrease ( $r = -.30, p < .01$ ). Other significant relationships exist between age and remaining variables, but the magnitude of relationships are small enough to be almost negligible. Length of service has a small negative relationship with position ( $r = -.12, p < .01$ ) with those serving longer more likely to be in a management position (as perhaps would be expected), and a small to moderate negative relationship with positive trait affect ( $r = -.43, p < .01$ ) indicating that as length of service increases levels of positive trait affect decrease. The relationships between gender and position and other variables is similar, with both gender and position demonstrating significant but small positive relationships with each other ( $r = .15, p < .01$ ), and with positive trait affect and distributive justice. Remaining relationship strengths (other than the relationship between position and perceptions of social exchange relationship quality which is negative and small), are negligible.

In terms of emotion, justice, social exchange and turnover intention variables, relationships can also be interrogated using Table 49. Emotion score is significantly related to age ( $r = -.05, p < .05$ ), length of service ( $r = -.03, p < .05$ ) and positive trait affect ( $r = .08, p < .01$ ), though these relationships are weak. Emotion score is also significantly positively related to organisational justice ( $r = .77, p < .01$ ) and social exchange relationship quality ( $r = .51, p < .01$ ), and significantly negatively related to turnover intention ( $r = -.42, p < .01$ ). These relationships are moderate in strength, though the relationship between emotion score and justice is the strongest significant relationship returned in the analysis. The relationship between justice and social exchange relationship quality is significant, positive and moderate ( $r = .49, p < .01$ ). The relationships between both justice and social exchange relationship quality and turnover intention are significant, negative and moderate in strength. To further understand the relationships between emotion and justice, turnover and social exchange relationship quality each emotion researched can also be considered separately rather than looking just at emotion score (which describes whether the emotion is positive or negative and the strength of the emotion, but not the type of emotion). These results are discussed in the following section.

Table 49.

*Correlations between variables along with significance level*

	Age	LoS	Sex	Position	Positive TA	Negative TA	Emotion Score	OJS	TIS-6	SERS
Age <sup>2</sup>	1.00									
LoS <sup>2</sup>	.79**	1.00								
Sex <sup>2</sup>	-.09**	-.02	1.00							
Position <sup>2</sup>	-.33**	-.12**	.15**	1.00						
Positive TA <sup>2</sup>	-.30**	-.43**	.19**	.14**	1.00					
Negative TA <sup>2</sup>	-.01	.11**	-.05*	.03	-.36**	1.00				
Emotion Score <sup>1</sup>	-.05*	-.03*	.01	.02	.08**	.01	1.00			
OJS <sup>1</sup>	-.05*	-.05*	.04*	.07**	.06**	-.06**	.77**	1.00		
TIS-6 <sup>1</sup>	.01	.09**	-.05*	-.09**	-.10**	.08**	-.42**	-.50**	1.00	
SERS <sup>1</sup>	.03	-.03	-.05*	-.11**	.14**	-.06**	.51**	.49**	-.54**	1.00

Note: <sup>1</sup>N (L1) = 2480, <sup>2</sup>N(L2) = 31 \*p < .05., \*\*p < .01.

## 7.8. Emotional Relationships

Considering individual emotions (and the strength of these emotions) and relationships between emotion and the other variables investigated, Table 50 reveals a range of positive and negative relationships. In general, the relationships between emotions are weak. The emotions of love and compassion have no significant relationships with other variables (perhaps as a result of few incidences of these emotions reported by participants), and so are omitted. Significant relationships exist between various emotions and organisational justice, social exchange relationship quality and turnover intention. Considering organisational justice, the emotions of pride and pleasure have the strongest significant positive relationships (and are the only two significant positive emotions for which  $r > .2$ ). The emotions of anger ( $r = -.51$ ,  $p < .01$ ) and disappointment ( $r = -.33$ ,  $p < .01$ ) have the strongest emotional relationships with organisational justice, and these are negative, indicating that as levels of anger and disappointment increase perceptions of justice decrease. For social exchange relationship quality and emotion, the strength of relationships is generally weaker than with organisational justice (perhaps indicating that justice is a more emotive construct). As with organisational justice, when we consider social exchange relationship quality the emotions of pride ( $r = .19$ ,  $p < .01$ ), disappointment ( $r = -.23$ ,  $p < .01$ ) and anger ( $r = -.31$ ,  $p < .01$ ) are the emotions with the strongest relationships, and these relationships have the same direction as those for organisational justice.

Consistent with these findings and expectations, the relationships between emotion and turnover intention are negative for positive emotions, and positive for negative emotions (which reverses the relationships found between emotion and justice and social exchange constructs as would be expected). As with justice and social exchange relationship quality, the strongest emotional relationships exist between turnover intention and anger ( $r = .28$ ,  $p < .01$ ) and disappointment ( $r = .18$ ,  $p < .01$ ), followed by disgust ( $r = .13$ ,  $p < .01$ ), pleasure and pride ( $r = -.12$ ,  $p < .01$  for both emotions). The directions of these relationships are as expected, with turnover intention increasing with negative emotions, and decreasing with positive emotions (though relationships are generally weak). Another finding worth note when considering emotion is the relationship between emotion and trait affect. Though significant relationships exist between some emotions and both positive and negative trait affect, the magnitudes of these relationships are small (with the magnitude of  $r < .1$  for all relationships). This indicates that trait affect is only weakly related to the more granular emotion recorded by participants. It is therefore worth considering the relative associations between event and emotion. If not influenced in a major way by trait affect, is emotion therefore situationally or event-driven?



Table 50.

*Relationships between emotion, trait affect and both predictor and dependent variables*

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Interest (1)	1.00																						
Amusement (2)	-.11**	1.00																					
Pride (3)	-.13**	-.11**	1.00																				
Joy (4)	-.05*	-.04*	-.05*	1.00																			
Pleasure (5)	-.15**	-.13**	-.15**	-.06**	1.00																		
Contentment (6)	-.05*	-.04	-.04*	-.02	-.05*	1.00																	
Admiration (8)	-.04*	-.04	-.04*	-.02	-.05*	-.02	1.00																
Relief (9)	-.06**	-.05*	-.06**	-.02	-.07**	-.02	-.02	1.00															
Sadness (11)	-.05*	-.04*	-.05*	-.02	-.06**	-.02	-.02	-.02	1.00														
Guilt (12)	-.03	-.02	-.03	-.01	-.03	-.01	-.01	-.01	-.01	1.00													
Regret (13)	-.04	-.03	-.03	-.01	-.04*	-.01	-.01	-.02	-.01	-.01	1.00												
Shame (14)	-.03	-.02	-.03	-.01	-.03	-.01	-.01	-.01	-.01	-.01	-.01	1.00											
Disappointment (15)	-.13**	-.11**	-.13**	-.05*	-.15**	-.05*	-.04*	-.06**	-.05*	-.03	-.04	-.03	1.00										
Fear (16)	-.03	-.03	-.03	-.01	-.04*	-.01	-.01	-.02	-.01	-.01	-.01	-.01	-.03	1.00									
Disgust (17)	-.04	-.03	-.04	-.01	-.04*	-.01	-.01	-.02	-.01	-.01	-.01	-.01	-.04	-.01	1.00								
Contempt (18)	-.03	-.03	-.03	-.01	-.04	-.01	-.01	-.01	-.01	-.01	-.01	-.01	-.03	-.01	-.01	1.00							
Hate (19)	-.01	-.01	-.01	-.01	-.02	-.01	-.01	-.01	-.01	-.00	-.00	-.00	-.01	-.00	-.00	-.00	1.00						
Anger (20)	-.15**	-.12**	-.14**	-.06**	-.17**	-.05*	-.05*	-.07**	-.05**	-.03	-.04	-.03	-.15**	-.04	-.04*	-.04	-.02	1.00					
OJS (21)	.19**	.15**	.29**	.11**	.26**	.08**	.07**	.04*	-.04*	-.05*	-.07**	-.09**	-.33**	-.19**	-.23**	-.17**	-.09**	-.51**	1.00				
TIS-6 (22)	-.11**	-.08**	-.12**	-.09**	-.12**	-.07**	-.08**	.01	.06**	.05**	.03	.06**	.18**	.10**	.13**	.06**	.05*	.28**	-.50**	1.00			
SERS (23)	.10**	.10**	.19**	.12**	.11**	.07**	.05**	.06**	-.08**	-.03	-.06**	-.06**	-.23**	-.12**	-.14**	-.10**	-.04*	-.31**	.49**	-.54**	1.00		
Positive Trait Affect (24)	.06**	.09**	.01	-.00	-.01	-.00	.00	.03	-.03	-.01	.00	-.01	.02	-.01	-.03	-.01	.01	-.03	.06**	-.1**	.14**	1.00	
Negative Trait Affect (25)	.04*	.03	.03	.01	-.03	.02	-.02	.01	.08**	-.02	.03	.04*	-.01	.03	.02	-.01	-.01	-.02	-.06**	.08**	-.06**	-.36**	1.00

Note: N = 2480, \*p &lt; .05., \*\*p &lt; .01.

## 7.9. Multilevel Modelling

In order to understand within- and between-group components of the experience sampling research, multilevel modelling (using IBM SPSS v24) was employed. This method explains whether there is 'sufficient' variance in outcomes between groups and therefore multilevel modelling is required, or whether there is little or no variation between groups (or levels) and therefore single level regression can be employed (using for example ordinary least squares or OLS). 'Sufficient' variance is subjective but is suggested by some authors (e.g. Heck et al., 2014) to be a value higher than 5%, suggesting that if between group variance is less than 5% then single-level regression can be used, but more than 5% multilevel modelling should be employed. Unlike single level (OLS) regression where there is a basic assumption that random errors are independent, are normally distributed, and have constant variance, in multilevel models the error structures are more complex. Individual errors are dependent within each unit as they are common within that unit, errors do not have constant variance (as the residual components describing intercepts and slopes may also vary across units), and the estimation of these unknown random parameters associated with intercepts and slopes may also depend on data characteristics, the type of analysis and the measurement scale of dependent variables (Heck et al., 2014).

The sequence of tests in the multilevel model follows the somewhat 'standard' stages of multilevel modelling reported by Field (2013), Heck et al. (2014), Hox et al. (2010) and others. These involve: (a) specification of the null (or no predictors) model. This enables the testing of the levels of variance at Level 1 and Level 2 to indicate the nature of the analysis to be employed (i.e. whether the model is single or multi-levelled); (b) specification of the Level 1 model; and (c) specification of the Level 2 model. Step (c) is where the thesis includes the model to explain both intercepts and randomly varying slopes and compares the -2 log likelihood to obtain the best model fit. The model with the best fit is then used for the full analysis of the relationships between variables. This thesis will report each of these stages in turn and offer some indication of the decisions made during the analysis, and reports the results consistent with the research of Xanthopoulou et al. (2008) who use multilevel modelling in their diary study on work engagement. This is somewhat due to the nature of multilevel modelling where the complexity of random parameters means that in some cases judgements must be made (Hox et al., 2010). Firstly, the thesis must define the levels pertinent to the analysis in a little more detail, before it can go on to develop the null model to consider the relative strengths of both the within- and between-person effects in the analysis, therefore justifying the use of the multilevel approach for this investigation.

### 7.9.1. The Levels in the Multilevel Model

In this section the levels in the analysis are discussed. Previous researchers suggest that a sufficient sample size is required at each level of analysis (Heck et al., 2014), and in this analysis there is an insufficient sample size (with INSCO contributing 21 participants and MEDCO 10 participants) to extend the analysis to the third level of 'company'. The multilevel model analysed in this thesis therefore consists of two levels. The first level consists of the variables of event, emotion (in terms of specific emotion type, emotion strength and the transformed variable of emotion score), organisational justice, social exchange relationship and turnover intention. The variables of emotion score, organisational justice, social exchange relationship and turnover intention are centred on the grand mean, as the analysis seeks to understand the effect of Level 2 variables controlling for Level 1 (which group mean centring does not facilitate; Field, 2013). The second level (Level 2) consists of the individual participant (with the Level 1 variables nested within Level 2) as well as the age, position, gender, organisation and both the negative and positive trait affect returned by each participant. These variables, along with their levels, are detailed in the method section in Table 38. This approach of using individual response scales nested within individual participants as Level 1 and Level 2 variables for experience sampling research has been used by previous authors (e.g. Xanthopoulou et al., 2008) using repeat-measure diary studies. In order to support these decisions, and to examine the variance components at each level of analysis in the model, the thesis will now consider the unconditional (no predictors) model.

### 7.9.2. The Null Model

The null model provides an estimated mean score on each measure for all participants. It also provides a partitioning of the variance between Level 1 and Level 2 by means of the intraclass correlation (or ICC) which describes the proportion of variance that is common to each participant, as opposed to variation that is associated with each of the measures within the questionnaire associated with each participant. It can be thought of as the population estimate of the amount of variance in the outcome explained by the nested structure of Level 1 and Level 2 variables (Hox et al., 2010). The ICC can be represented by:

$$\rho = \sigma^2_B / (\sigma^2_B + \sigma^2_W),$$

where  $\sigma^2$  represents the variance and B and W stand for between person and within person, respectively (Heck et al., 2014). The null model for this analysis uses all participant data reported for all events rather than only bonus pay as an event. This enables the testing of both Level 1 and Level 2 effects across all of the data. It also allows for the comparing of like for like model fit criteria (namely -2 log likelihood) across models while testing for variance in turnover intention due to event groups in later analyses. As some event groups have relatively small sample sizes decisions related to the analysis must take this into account. In smaller group samples the difference in estimation between ML (maximum likelihood) and REML (restricted maximum likelihood) results in a downward bias in variance components estimated with ML compared to REML. With small group samples, therefore, we generally prefer REML estimation (Heck et al., 2014). As the results consider predictor variables for turnover intention for each of the events researched (as the thesis seeks to understand predictor variables for turnover intention for bonus pay specifically, and other events in order to develop comparison points) the group sizes and number of cases are small for some events. We therefore use REML estimation in the analysis.

The intercept or grand mean for turnover intention reported by participants is estimated as 2.998. This represents the average level of turnover intention across the 31 participants (and is identical to the unadjusted mean). The -2\* log likelihood for this 2-Level model is 4689.478 (this indicates an improvement in model fit over a model with a single level predicting turnover intention which returns a -2 log likelihood of 6474.799, a highly significant difference comparing the  $\chi^2$  difference with two degrees of freedom). The variance component output indicates that the proportion of variance in turnover intention that lies between participants (i.e. the ICC) is 0.548 or 54.8%. This is shown in Table 51. The results of the null or no-predictors model therefore suggest that the development of a multilevel model is warranted.

The residual parameter indicates that there is significant variance to be explained within participants (residual estimate = .366,  $p < .001$ ). Similarly, the intercept parameter indicates that the intercepts vary significantly across the sample of participants (intercept estimate = .443,  $p < .001$ ). Because intercepts vary significantly across participants and the ICC suggests that about 54.8% of the total variability in turnover intention lies between participants there is reason to develop a multilevel model to explain this variability in intercepts within and between participants. The reliability of the sample mean as an estimate for its population mean can also be assessed with information drawn from the variance components and proves to be high, perhaps expectedly given that the grand mean and unadjusted mean are identical ( $\lambda = 0.974$ ).

### 7.9.3. The Level 1 Random Intercept Model

The multilevel model used in the null model includes variables at both levels (participant for Level 2 and the dependent variable of turnover intention for the Level 1 variable). Adding the additional Level 2 variables and Level 1 predictor variables as fixed effects in turn and assessing model fit provides a further iterated model. Model fit in this case is optimal without the inclusion of Level 2 variables (which are controlled for), and with the Level 1 predictor variables of centred emotion score, centred social exchange relationship and centred organisational justice included, here named the Level 1 random intercept model and included as Model 1 in Table 51. This model will provide an understanding of the significant effects of these predictor variables in turn on turnover intention. The inclusion of these predictor variables as fixed effects improves model fit considering the -2 log likelihood change between this model (-2LL = 3067.661) and the previous null model (-2LL = 4689.478). The change in degrees of freedom between the two models is 4 (provided by subtracting the total number of parameters for each model, so  $7 - 3$ ), and therefore the difference in -2LL (1621.817) is highly significant as it is greater than the critical values for the chi-square statistic with 4 degrees of freedom (between 9.488 for  $p < .05$  and 13.277 for  $p < .01$ ). This provides evidence of improved fit for this model against the null model. The residual parameter indicated that there is significant variance to be explained within groups (residual estimate = .188,  $p < .001$ ) and the intercept parameter indicates that the intercepts vary significantly across the sample of participants (intercept estimate = .340,  $p < .001$ ). The ICC = .644 (also reported in Table 51).

Table 51.

*Estimates and other variables returned by the multilevel model predicting turnover intention*

Model	Null			1			2			3		
Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	-0.002	0.120	-0.017	0.419	0.115	3.628*	0.490	0.010	4.935**	0.457	0.105	4.349**
SERS				-0.413	0.026	-15.738**	-0.431	0.074	-5.858**	-0.444	0.070	-6.332**
OJS				-0.162	0.017	-9.762**	-0.133	0.037	-3.575*	-0.136	0.038	-3.566*
Emotion Score				-0.073	0.010	-8.859**	-0.087	0.016	-5.487**	-0.085	0.016	-5.435**
Event Type										0.004	0.004	1.167
Model Fit Characteristics												
-2LL	4689.478			3067.661			2000.683			1961.655		
$\Delta$ -2LL				1621.817			1066.978			39.028		
df	3			7			9			11		
Residual estimate	0.366**			0.188**			0.112**			0.108**		
Intercept estimate	0.443**			0.340**			0.243*			0.279*		
ICC	0.548			0.644			0.685			0.721		

Note: N = 2480, \*p < .05., \*\*p < .001.

#### 7.9.4. The Random Slope and Intercept Model

In the case of the random slope and intercept model (described as Model 2 in Table 51) the fixed parameters are identical to the previous model (the Level 1 random intercept model). In the real application of this data, it does not make sense that predictor variables should have a fixed effect but no random effect, since levels of justice, social exchange and emotion also have the potential to vary by person. In the random slope and intercept model the analysis therefore includes these predictor variables as random effects and continues to control for Level 2 variables. Since scores on individual measures are significantly related to turnover intention (as can be seen in the results in Table 50), the analysis can indicate if the slope for these measures varies across participants. Model 2 shows improved model fit compared to Model 1 when considering the -2-log likelihood difference ( $\Delta$ -2LL = 1066.978). The residual parameter indicates that there is significant variance to be explained within groups (residual estimate = .112,  $p < .001$ ) and the intercept parameter indicates that the intercepts vary significantly across the sample of participants (intercept estimate = .243,  $p < .001$ ). The ICC is 0.685 and is again reported in Table 51.

Adding all predictor variables in to the model one at a time as random parameters and noting the -2 log likelihood statistic for model fit allows for the development of an appropriate model for conducting further analysis. The most effective model fit comes with the addition as random parameters of all predictor variables, including event type as a categorical variable (though little can be summarised from the inclusion of this variable other than whether event type has a significant effect on either predictor or dependent variables). The variables of gender, position and company are controlled for along with negative and positive trait affect but are not included as predictors as this reduces overall model fit (as was the case for models 1 and 2). This model is shown as Model 3 in Table 51. The -2 log likelihood statistic for this model (-2LL = 1961.655) shows a significant decrease from the previous model when considering the  $\chi^2$  difference. The residual parameter indicates that there is significant variance to be explained within participants (residual estimate = .108,  $p < .001$ ) and similarly the intercept parameter indicates that the intercepts vary significantly across the sample of participants (intercept estimate = .279,  $p < .05$ ). As Model 3 has the best model fit, this model is used to understand the strength of the relationships in the analysis. Table 51 also shows the intraclass correlation coefficient (ICC) which describes the proportion of variance that is common to each participant, as opposed to common across measures. This therefore gives an indication of the proportion of variance in turnover intention that lies between participants. As the model increases in model fit more variance in achievement lies between participants, with the null model indicating that 54.8% of variance lies between participants and Model 3

indicating 72.1%. This demonstrates that as the model improves in accuracy with more predictor variables added then less variance is accounted for within participants rather than between participants.

#### 7.9.5. Strengths of Relationships

In terms of the estimates returned by Model 3 in Table 51, there are observations which can be drawn directly from the data. Social exchange relationship, organisational justice and emotion score all have significant relationships with turnover intention considering all events in aggregate. The estimate for SERS as a predictor of turnover intention is the strongest significant relationship and is negative ( $B = -.444$ ,  $p < 0.001$ ). The strength of this relationship is more than double that of the next strongest relationship between organisational justice and turnover intention, which is also negative ( $B = -.136$ ,  $p < 0.05$ ) indicating that as perceptions of justice increase turnover intention decreases. Considering the strength of relationships using all data (i.e. for all aggregated events) proves useful not only in determining whether a multilevel model should be employed instead of considering the analysis at a single level, it also provides a useful baseline for the comparison of reactions to specific events (such as bonus pay) which are considered later in this chapter. While the results for the model involving turnover intention as a dependent variable are detailed in Table 51, the remaining relationships (i.e. when social exchange, emotion score and organisational justice are considered dependent variables) are shown in Table 52, with estimates summarised in Figure 27. This provides an overview of the paths, estimates and significance levels for the variables and relationships for all events in the analysis.

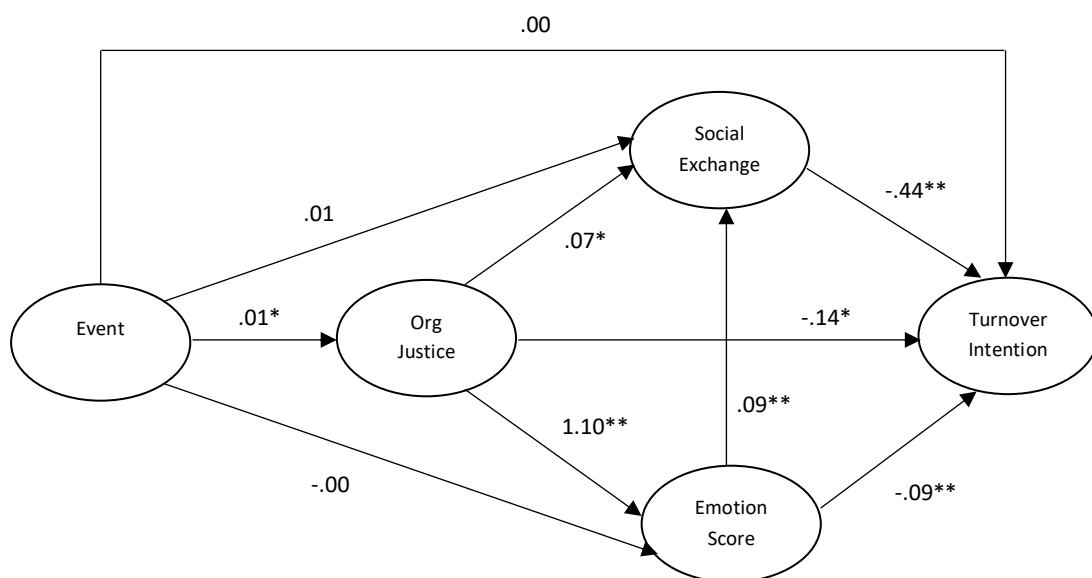


Figure 27. Estimates for all events including emotion score as a predictor (\* $p < 0.05$ , \*\* $p < 0.01$ ).



Table 52.

*Estimates and other variables returned by the multilevel model predicting Emotion Score, Justice, Social Exchange Relationship and Turnover Intention for all workplace events reported.*

Dependent Variable	Emotion Score			Organisational Justice			Social Exchange Relationship			Turnover Intention		
Predictor Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	5.691	0.207	27.532**	-1.667	0.085	-19.511**	-0.416	0.087	-4.780**	0.457	0.105	4.349**
SERS	1.24	0.159	7.806**	0.211	0.063	3.344*	-	-	-	-0.444	0.070	-6.332**
OJS	1.100	0.094	11.757**	-	-	-	0.066	0.019	3.412*	-0.136	0.038	-3.566*
TIS-6	-0.664	0.133	-4.996**	-0.239	0.055	-4.314**	-0.370	0.057	-6.453**	-	-	-
Emotion Score	-	-	-	0.279	0.015	18.155**	0.085	0.011	7.881**	-0.085	0.016	-5.435**
Event Type	-0.003	0.006	-0.536	0.009	0.004	2.400*	0.005	0.003	1.732	0.004	0.004	1.167
Residual estimate	0.837**			0.229**			0.071**			0.111**		
Intercept estimate	1.232*			0.131*			0.195*			0.371*		
ICC	0.595			0.636			0.733			0.770		

Note: N = 2480, \*p < .05., \*\*p < .001.

#### 7.9.6. Level 2 Predictors

Considering Level 2 predictors in the multilevel analysis demonstrates the relationships between gender, position, age, company, trait positive affect and trait negative affect and turnover intention (as well as their respective relationships with event, emotion score, organisational justice and social exchange relationship). Firstly, the effects of these Level 2 variables in the model for all events can be considered. It is noteworthy then when these variables are added to the random slope and intercept model described in section 7.9.4 that the model fit decreases when compared to the model without these Level 2 predictors (as measured by considering the chi-squared difference in the -2 log likelihood of models including and excluding the Level 2 variables). The values of estimates for Level 2 predictor variables show that positive trait affect has the strongest relationship with turnover intention, though this relationship does not meet traditional levels of significance ( $B = -.283$ ,  $p > 0.05$ ). The direction of the relationship indicates that as participants report higher levels of positive trait affect their turnover intention decreases. It is interesting to note that no Level 2 predictor variable demonstrates a significant relationship with turnover intention, social exchange relationship quality or organisational justice. Considering the effects of Level 2 variables on the remaining Level 1 variables in the research presents some interesting results. Neither Age, Gender nor Position form significant predictors of Level 1 variables. Summarising the significant estimates, the analysis shows that company (whether INSCO or MEDCO) significantly predicts emotion score, but no other Level 1 variable. This relationship is moderate in strength ( $B = .237$ ,  $p < 0.05$ ). Positive trait affect significantly predicts emotion score (a relationship which is also moderate in strength with  $B = .323$ ,  $p < 0.05$ ). Negative trait affect significantly predicts event type ( $B = .527$ ,  $p < 0.05$ ). These relationships are reported in Table 53 and demonstrate that few of the relationships between Level 2 and Level 1 variables reach traditional levels of significance.

Table 53.

*Level 2 estimates predicting Level 1 dependent and predictor variables for all events.*

Dependent Variable	Event Type			Emotion Score			Organisational Justice			Social Exchange Relationship			Turnover Intention		
Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	2.359	1.235	1.910	3.934	0.720	5.463**	-0.237	0.762	-0.311	-0.214	1.460	-0.147	0.912	1.893	0.482
Age	-0.009	0.010	-0.940	-0.003	0.006	-0.431	-0.001	0.006	-0.177	0.001	0.012	0.085	-0.006	0.015	-0.411
Gender	0.069	0.172	0.401	-0.011	0.104	-0.106	0.034	0.103	0.328	-0.098	0.205	-0.478	-0.058	0.270	-0.216
Position	0.193	0.265	0.728	0.092	0.156	0.589	0.254	0.154	1.648	-0.297	0.292	-1.015	-0.189	0.504	-0.374
Company	0.021	0.179	0.115	0.237	0.110	2.158*	0.098	0.108	0.910	-0.054	0.233	-0.231	0.115	0.298	0.385
Positive Trait Affect	0.280	0.177	1.584	0.323	0.106	3.051*	0.043	0.105	0.413	0.228	0.205	1.113	-0.283	0.260	-1.091
Negative Trait Affect	0.527	0.239	2.206*	0.198	0.140	1.411	-0.120	0.146	-0.824	0.011	0.279	0.038	0.117	0.385	0.303

Note: N = 2480, \*p < .05., \*\*p < .001.

### 7.9.7. Relative Relationships for All Events

Considering the events reported in the research separately and their relative estimates when predicting turnover intention, some interesting observations can be drawn (these relationships are shown in Table 54). Due to the small sample size for violation of trust as an event the estimates cannot be calculated. For all remaining events the results show that emotion score does not form a significant relationship with turnover intention for any events. Adhering to the definition of an affective event in which emotion directly predicts turnover intention above and beyond social exchange relationship quality the results therefore suggest that none of the events included in the research can be considered an affective event as the relationships do not reach traditional levels of significance. This is perhaps surprising, as when considering the effect of emotion score on turnover intention for all events in aggregate emotion score does form a significant predictor of turnover intention, though this relationship is very weak (as can be seen in Table 54, where  $B = -.085$ ,  $p < 0.001$ ).

Considering the predictive effects of social exchange relationship and organisational justice on turnover intention, the strength of the relationships vary for each event though the relationships between both social exchange relationship and organisational justice and turnover intention are generally negative. This indicates that as perceptions of both social exchange relationship quality and organisational justice increase turnover intention decreases. The only positive relationship between these variables is that involving justice and turnover intention for the event of fairness or discrimination, though this does not reach traditional levels of significance. The relationships between social exchange relationship and turnover intention are stronger than between organisational justice and turnover intention, with the strongest significant relationship between social exchange relationship and turnover intention being for 'fairness or discrimination' as an event ( $B = -.620$ ,  $p < 0.05$ ), and between organisational justice and turnover intention being for 'financial recognition' as an event ( $B = -.401$ ,  $p < 0.001$ ). The relationships between variables for financial recognition as an event will be considered in more detail in the next section as distinct relationships for bonus pay (coded as financial recognition in the research) are considered in more detail. It is interesting to note that the between-person variance for financial recognition returns a value lower than for other events (with Level 2 variance 63.1% for this event as measured by the ICC as shown in Table 54), meaning that while the majority of the variance exists at Level 2 for each event, for financial recognition there is more variance explained at Level 1 (within person) than for other events included in the research.

Table 54.

*Estimates and variables returned by the multilevel model for individual events predicting turnover intention*

Events	N	Intercept	Emotion Score	OJS	SERS	ICC	Residual estimate	Intercept estimate
Acts of Colleagues	687	-0.060	-0.038	-0.174*	-0.452*	0.832	0.085**	0.420*
Acts of Managers	487	-0.022	-0.037	-0.280*	-0.323*	0.844	0.079**	0.428*
Acts of Customers	311	-0.007	-0.014	-0.391*	-0.594*	0.975	0.016**	0.633*
Non-financial Recognition	69	0.310	-0.095	-0.264	-0.508*	0.795	0.063*	0.245
Financial Recognition	127	0.211	-0.042	-0.401**	-0.600**	0.631	0.076**	0.130*
Fairness or Discrimination	71	0.383*	-0.008	0.036	-0.620*	0.998	0.001**	0.448*
Violation of trust	39	Insufficient sample size						
Conflict	96	0.345*	-0.037	-0.035	-0.218	0.970	0.014**	0.446*
Ability to influence	101	-0.150	-0.016	-0.078	-0.144*	0.997	0.003*	0.857*
Process Involvement	224	-0.013	0.004	-0.241	-0.318*	0.986	0.006**	0.424*
Technical involvement	62	0.215	-0.022	-0.288	-0.560*	0.997	0.001*	0.395
Development	142	-0.016	0.002	-0.201*	-0.314*	0.923	0.037**	0.440*
Goal Achievement	64	-0.209	-0.041	-0.050	-0.322**	0.940	0.034**	0.537*

Note: N = 2480, \*p < .05., \*\*p < .001.

Table 55.

*Estimates showing relationships between variables including emotion score for bonus pay as an event*

Dependent Variable	Emotion Score			Organisational Justice			Social Exchange Relationship			Turnover Intention		
Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	4.477	0.296	15.104**	-0.565	0.168	-3.368*	-0.254	0.106	-2.383*	0.211	0.184	1.837*
SERS	0.659	0.172	3.829**	0.003	0.070	0.049	-	-	-	-0.600	0.078	-7.720**
OJS	0.486	0.231	2.105*	-	-	-	0.302	0.108	2.798*	-0.401	0.096	-4.176**
TIS-6	-0.547	0.211	-2.594*	-0.402	0.094	-4.295**	-0.566	0.069	-8.229**	-	-	-
Emotion Score	-	-	-	0.077	0.032	2.446*	0.266	0.037	7.268**	-0.042	0.038	-1.103
Residual estimate	0.203**			0.026**			0.102**			0.076**		
Intercept estimate	0.236*			0.188*			0.185*			0.130*		
ICC	0.917			0.879			0.645			0.631		

Note: N = 127, \*p < .05., \*\*p < .001.

### 7.10. Strength of Relationships for Bonus Pay as an Event

In order to consider the specific path relationships for bonus pay as an event to allow the testing of the remaining hypotheses in this thesis, the process described earlier to develop the most effective model considering the predictor variables and turnover intention, social exchange relationship, emotion and justice in turn was repeated. Rather than detail the model development process (as the process follows that described in detail for all events in Section 7.9.) the analysis for the event of financial recognition (or bonus pay) will summarise the final model with the most effective model fit for each dependent variable in turn in Table 55 and provide a summary in Figure 28.

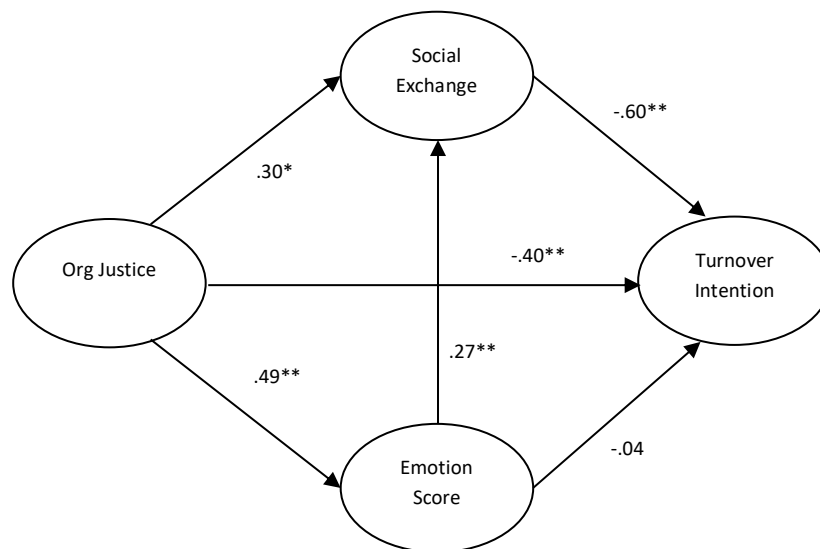


Figure 28. Estimates for relationships for bonus pay as an event (\* $p < 0.05$ , \*\* $p < 0.01$ ).

Considering bonus pay as an event in isolation (or financial recognition as it is coded in this research) allows this thesis to focus on the relationships between predictor and dependent variables. This is the event at the centre of this research, and while comparison with other events offers an understanding of the relative strengths of relationships (with results shown in Table 54), focussing on financial recognition allows for the testing of further hypotheses (for example hypothesis 8, that Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET). An interrogation of Figure 28 allows for several observations. Firstly, the relationship between organisational justice and emotion

score ( $B = .49, p < 0.001$ ) is significant and stronger than for organisational justice and social exchange relationship quality ( $B = .30, p < 0.05$ ). Emotion score is a moderate significant predictor of social exchange relationship quality ( $B = .27, p < 0.01$ ), however the relationship between emotion score and turnover intention is weak and does not reach traditional levels of significance ( $B = -.04, p > 0.05$ ). The relationships between organisational justice and emotion score and emotion score and social exchange relationship quality are both positive as perhaps would be expected. The strongest significant predictor of turnover intention for bonus pay as an event is social exchange relationship quality ( $B = -.60, p < 0.01$ ) followed by organisational justice ( $B = -.40, p < 0.01$ ). Both of these relationships are negative, indicating that as justice and social exchange increase then turnover intention decreases consistent with hypothesis 9.

#### 7.10.1. Bonus Pay, State Affect and Turnover Intention

Emotion score as a scale can be seen as a crude attempt to create a single emotion scale with positive and negative emotions as polar states. While some scholars (e.g. Russell & Carroll, 1999) maintain a single bipolar continuum for positive and negative feelings, there are many emotion scholars who suggest that positive and negative emotions do not sit at each end of a continuum, but rather are two independent dimensions (e.g. Watson & Tellegen, 1985). More consistent therefore with previous research (e.g. Colquitt et al., 2001) is to provide an analysis of the relative relationships between predictor and dependent variables for cases involving strength of positive affect and negative affect separately. This analysis can therefore substitute emotion score for positive affect in the first instance, and negative affect in the second, and test the relationship between the strength of these variables and justice, social exchange relationship quality and turnover intention variables. These relationships are shown in Tables 56 and 57, and in Figures 29 and 30 for positive affect and negative affect relationships respectively.

By inspecting Figures 29 and 30 some differences can be seen between affective relationships across variables in the research. Focussing on the relationships between affect and both turnover intention and social exchange relationship quality can exemplify this. The relationship between positive affect and turnover intention and negative affect and turnover intention are both significant, are directionally consistent with expectations (with an increase in positive affect negatively related to turnover intention, and an increase in negative affect positively related), but show dramatically different effect sizes when predicting turnover intention ( $B = -0.37, p < 0.05$  for positive affect and  $B = 0.02, p < 0.05$  for negative affect). This indicates that an increase in positive affect is associated with a greater decrease in



turnover intention than is associated with a similar decrease in negative affect. While the relationship between strength of affect and social exchange is of the same order of magnitude for both positive and negative affect ( $B = -0.62$ ,  $p < 0.001$  for positive affect and  $B = -0.52$ ,  $p < 0.001$  for negative affect) there are some further differences in relationship strengths (if not directions) between other variables. The relationship between positive affect and social exchange relationship quality is approximately one third of the strength of the relationship between negative affect and social exchange relationship quality and different directionally ( $B = 0.11$ ,  $p < 0.001$  for positive affect and  $B = -0.35$ ,  $p < 0.001$  for negative affect). This indicates that stronger negative emotions are associated with a decrease in social exchange relationship quality, and as positive emotions strengthen social exchange relationship quality also increases. The direction is perhaps as to be expected, though the asymmetric strength of relationship indicating that negative relationships have three times the strength of effect on the relationship with social exchange relationship quality is interesting, especially as positive affect has a stronger relationship with turnover intention than negative affect.

Inspecting the remaining paths in Figures 29 and 30 show that the strengths of relationships between organisational justice and both positive affect and negative affect are again directionally consistent with expectations, but exhibit different effect sizes ( $B = 0.19$ ,  $p < 0.05$  for positive affect and  $B = -0.52$ ,  $p < 0.05$  for negative affect). Similarly, the relationships between justice and both turnover intention and social exchange relationship quality for the two models in Figures 29 and 30 are directionally consistent with expectations but exhibit varying effect sizes (the relationship with turnover intention returning  $B = -0.24$ ,  $p < 0.001$  for positive affect and  $B = -0.40$ ,  $p < 0.05$  for negative affect; the relationship with social exchange relationship quality returning  $B = 0.18$ ,  $p < 0.05$  for positive affect and  $B = 0.39$ ,  $p < 0.05$  for negative affect). This would indicate contrasting changes in emotion and appraisals with appraisals of organisational justice, dependent on whether positive or negative affect is experienced by the participant. In the case of negative affect an increase in perceptions of justice is associated with a stronger increase in social exchange relationship quality, and stronger decrease in turnover intention than a similar increase in perceptions of justice in the case of positive affect. These findings are consistent with previous research (e.g. Colquitt et al., 2001; Judge & Ilies, 2004; Eagley & Chaiken, 1993) which suggests that emotional states can alter cognitive processes differentially, and that positive and negative affective states can bias the processing of information to influence decision making to different degrees (Shaller & Cialdini, 1990; Worth & Mackie, 1987).

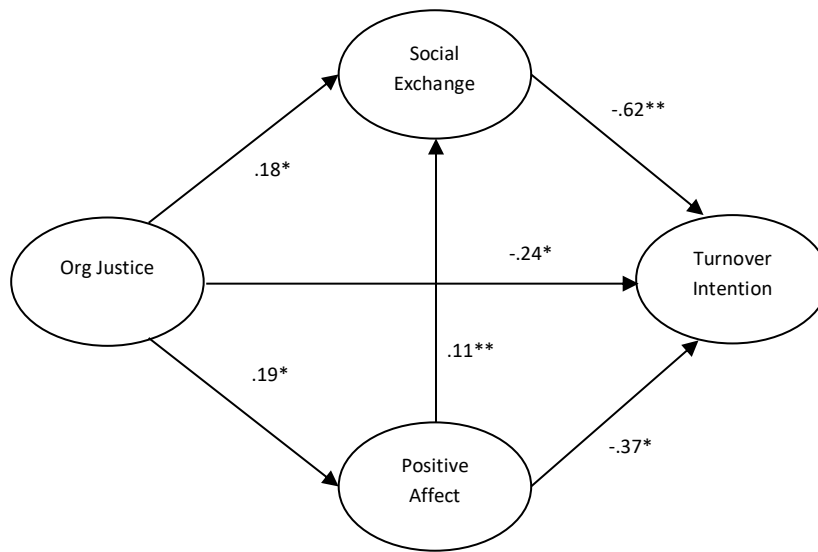


Figure 29. Estimates for relationships between Positive Affect and other variables for bonus pay as an event

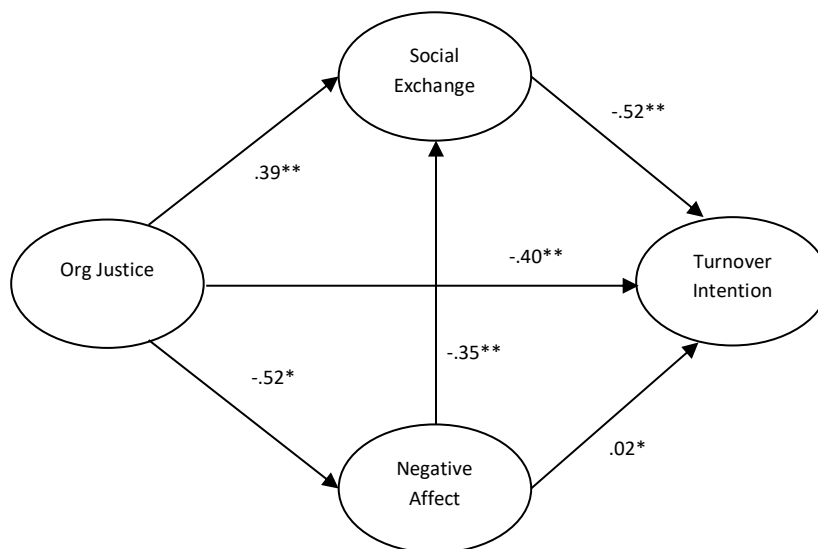


Figure 30. Estimates for relationships between Negative Affect and other variables for bonus pay as an event

Table 56.

*Estimates showing relationships between variables including positive affect for bonus pay as an event*

Dependent Variable	Positive Affect			Organisational Justice			Social Exchange Relationship			Turnover Intention		
Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	0.905	0.326	2.775*	0.267	0.079	3.400*	0.702	0.175	4.009*	1.024	0.196	5.226**
SERS	0.443	0.329	1.346	0.067	0.087	0.769	-	-	-	-0.624	0.163	-6.731**
OJS	0.186	0.131	0.805*	-	-	-	0.177	0.108	2.170*	-0.238	0.449	-0.531*
TIS-6	-0.605	0.227	-2.667*	0.016	0.065	0.246	-0.624	0.113	-5.536**	-	-	-
Positive Affect	-	-	-	0.110	0.047	2.367*	0.105	0.087	1.005**	-0.368	0.117	-3.140*
Residual estimate	0.178**			0.017**			0.049*			0.075**		
Intercept estimate	0.236*			0.188*			0.160*			0.132*		
ICC	0.917			0.829			0.694			0.568		

Note: N = 27, \*p < .05., \*\*p < .001.

Table 57.

*Estimates showing relationships between variables including negative affect for bonus pay as an event*

Dependent Variable	Negative Affect			Organisational Justice			Social Exchange Relationship			Turnover Intention		
Variables	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	0.391	0.129	3.030*	-0.282	0.077	-3.673**	0.087	0.085	1.014	0.289	0.089	3.261*
SERS	-0.903	0.131	-6.868**	0.148	0.094	1.585	-	-	-	-0.518	0.094	-5.495**
OJS	-0.517	0.160	-3.235*	-	-	-	0.386	0.101	2.334**	-0.396	0.102	-3.880**
TIS-6	0.074	0.135	0.548	-0.379	0.094	-4.023**	-0.404	0.077	-5.235**	-	-	-
Negative Affect	-	-	-	-0.211	0.060	-3.504*	-0.350	0.052	-6.794**	0.121	0.075	1.255*
Residual estimate	0.063**			0.059**			0.086**			0.103**		
Intercept estimate	0.236*			0.188*			0.185*			0.212*		
ICC	0.857			0.829			0.645			0.514		

Note: N = 100, \*p < .05., \*\*p < .001.

7.11. Testing Hypotheses 6a and 6b: organisational justice is positively related to positive emotions, and negatively related to negative emotions.

Hypotheses 6a and 6b, that organisational justice is positively related to positive emotions and negatively related to negative emotions can be tested by referring to the multilevel analysis in Tables 56 and 57. In these tables discrete positive emotions captured by completion of the Geneva Emotion Wheel (Scherer, 2009) are grouped as positive state affect, and discrete negative emotions grouped as state negative effect. Table 56 shows that positive affect is significantly and positively related to organisational justice ( $B = 0.19$ ,  $p < 0.05$ ), indicating that organisational justice is positively related to positive emotions. Similarly, Table 57 shows that negative affect is significantly negatively related to organisational justice ( $B = -0.52$ ,  $p < 0.05$ ), indicating that organisational justice is negatively related to negative emotions. This analysis therefore provides support for hypotheses 6a and 6b.

7.12. Testing Hypothesis 2b: organisational justice is negatively related to turnover intention.

Hypothesis 2b suggests that organisational justice is negatively related to turnover intention. This suggests that as positive perceptions of fairness increase, employees are less likely to want to leave the organisation. Though this hypothesis was tested in the first investigation, we can also consider this relationship in the experience sampling investigation as both of these constructs are included in this research. The hypothesis can be investigated by interrogating the multilevel model in Table 55 (also detailed in Figure 28) where justice is indeed a negative predictor of turnover intention ( $B = -.401$ ,  $p < 0.05$ ). As perceptions of justice improve therefore, turnover intention decreases, and similarly as perceptions of justice deteriorate then turnover intention increases. The relationship between organisational justice and turnover intention is not only negative for financial recognition as an event, but also for all other events included in the research (other than fairness and discrimination as an event) though not all of these relationships reach traditional levels of significance. The estimates for the predictor variable of justice and dependent variable of turnover intention for all events are shown in Table 54.

7.13. Testing Hypothesis 8a and 8b: Bonus Payment will be a work event which can a) be considered an affective event as per the tenets of AET and will therefore b) have a direct affective relationship and a unique effect above and beyond those of social exchange relationship quality effects on turnover intention.

These hypotheses can be tested by considering the path diagrams in Figures 28, 29 and 30 and the results returned in Tables 55, 56 and 57. There is no significant direct predictive relationship between emotion score and turnover intention and therefore no unique effect above and beyond that of social exchange relationship quality ( $B = -.04$ ,  $p > .05$ ). When the more theoretically consistent variables of positive and negative state affect are considered however, each has a significant relationship with turnover intention ( $B = -0.37$ ,  $p < 0.05$  for positive affect and  $B = 0.02$ ,  $p < 0.05$  for negative affect). This thesis can therefore conclude that bonus pay is an affective event, though this categorisation does not hold if the analysis considers emotion score rather than positive affect and negative affect to represent emotion variables in the analysis. This finding perhaps also extends to the other events considered in the research, which demonstrate that emotion score does not significantly predict turnover intention for any of the events (as shown in Table 54). There may be potential in future research to include positive and negative affect as variables for these events to investigate whether there are also significant relationships once these are substituted for emotion score.

7.14. Testing Hypothesis 9: Organisational justice is positively related to social exchange quality, which in turn is negatively related to turnover intention.

By interrogating the direction of the relationships in the paths shown in Figure 27 (and Table 52) for all events, and Figure 28 (and Table 55) for financial recognition as an event this thesis can test hypotheses 9. The analysis demonstrates that justice is significantly positively related to social exchange relationship quality ( $B = 0.07$ ,  $p < 0.05$ ), which in turn is significantly negatively related to turnover intention ( $B = -0.44$ ,  $p < 0.01$ ) for all events, and that justice is significantly positively related to social exchange relationship quality ( $B = 0.30$ ,  $p < 0.05$ ) which in turn is significantly negatively related to turnover intention ( $B = -.60$ ,  $p < 0.01$ ) for financial recognition as an event. This hypothesis can be further tested by considering the estimates in Figures 29 and 30 (and Tables 56 and 57) to ensure that this hypothesis holds for the inclusion of both positive and negative affect variables in place of emotion score. In the case of positive affect the relationship between justice and social exchange relationship quality is significant and positive ( $B = 0.18$ ,  $p < 0.05$ ), and the relationship between social exchange relationship quality and turnover intention is significant and negative ( $B = -0.62$ ,  $p < 0.01$ ). Similarly, in the case of negative affect the relationship

between justice and social exchange relationship quality is significant and positive ( $B = 0.39$ ,  $p < 0.01$ ), and the relationship between social exchange relationship quality and turnover intention is significant and negative ( $B = -0.52$ ,  $p < 0.01$ ). This provides support for hypothesis 9 for all events, and for financial recognition as a specific event.

7.15. Testing Hypothesis 10: The relationship between justice and both social exchange relationship quality and turnover intention is mediated by positive or negative state affect.

In order to test the potential mediating relationships of positive and negative state affect on organisational justice and both social exchange relationship quality and turnover intention bootstrapping was employed using the PROCESS macro for SPSS (version 3.4, Hayes, 2017). Bootstrapping was used (instead of, for example the Sobel test) as the assumption that the indirect effect is normally distributed within the sample cannot be verified.

Considering state positive affect and state negative affect as potential mediators allows for the testing of hypothesis 10 and facilitates the calculation of both direct effects of justice on social exchange relationship quality and turnover intention, and also indirect effects via positive and negative state affect. For the relationships predicting social exchange relationship quality shown in Figure 31 application of the PROCESS method (CI = 95%, number of bootstrap samples = 5000) provides the regression coefficients detailed in Table 58. The regression coefficient between organisational justice and both positive and negative state affect (path a in Figure 31) is significant, as are the regression coefficients between both positive and negative state affect and social exchange relationship quality (path b in Figure 31). The regression coefficient between organisational justice and social exchange for both positive and negative affect (the direct effect identified by path c in Figure 31) does not reach traditional levels of significance. The results in Table 58 demonstrate that while negative affect mediates the relationship between organisational justice and social exchange relationship quality, positive affect does not. The standardised indirect effect when considering negative affect (through paths a and b) is greater in magnitude than the direct effect ( $\beta = .323$  for the indirect effect compared with  $\beta = -.231$  for the direct effect) indicating that most of the effect of justice on social exchange comes through the indirect path.

Similarly, the effect of positive and negative state affect as potential mediators of the relationship between organisational justice and turnover intention can be considered (as outlined in Figure 32). The regression coefficients returned during the PROCESS method (again with CI = 95%, number of bootstrap samples = 5000) indicate that while negative affect mediates the relationship between organisational justice and turnover intention, positive affect does not, therefore providing additional partial support for hypotheses 10 (with

results shown in Table 58). Unlike with the relationships between organisational justice and social exchange relationship quality, when turnover intention is considered as the dependent variable the standardised indirect effect (through paths a and b) is smaller in magnitude than the direct effect ( $\beta = -.174$  for the indirect effect compared with  $\beta = -.372$  for the direct effect) indicating that the majority of the effect of organisational justice on turnover intention does not come through the indirect path, but rather the direct path. Together these two tests provide partial support for hypothesis 10 and suggest that the relationship between justice and both social exchange relationship quality and turnover intention is mediated by negative state affect, but is not mediated by positive state affect.

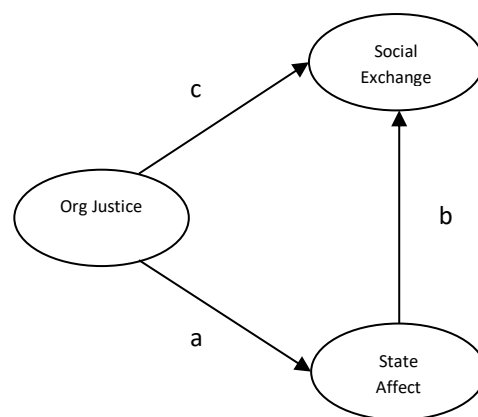


Figure 31. Paths considering justice-state affect-social exchange relationships

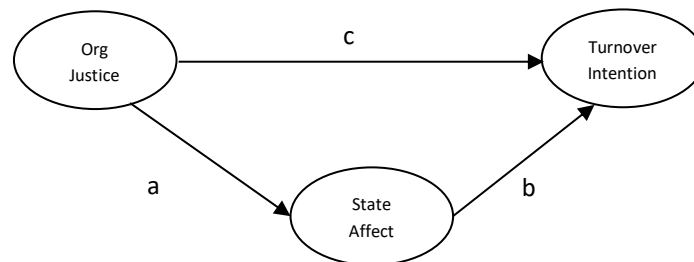


Figure 32. Paths considering justice-state affect-turnover intention relationships

While the analysis in this section uses the aggregated variable of state affect (where all discrete positive emotions are considered representative of positive state affect, and all discrete negative emotions representative of native state affect), the potential mediating relationships of distinct emotions on justice and social exchange relationships, and justice and turnover intention relationships are included in Appendix 2, Section 11.2.3. This appendix provides some additional granularity to the understanding of which specific emotions play a mediating role in these relationships.



Table 58.

*Mediating effects of state positive and negative affect on justice and both social exchange relationship quality and turnover intention for financial recognition as an event.*

Relationship	R <sup>2</sup>	Coeff path a	Coeff path b	Coeff path c (Direct Effect)	Indirect Effect	Boot SE	BootLLCI (95%CI)	BootULCI (95% CI)	Comment
OJS – Positive Affect – SERS <sup>1</sup>	.239*	1.959*	0.220*	0.857	0.432	0.470	-0.428	1.402	No Mediation
OJS – Negative Affect – SERS <sup>2</sup>	.449**	-0.754**	-0.475**	-0.102	0.358	0.067	0.230	0.491	Mediation
OJS – Positive Affect – TIS6 <sup>1</sup>	.228*	1.959*	-0.528*	-0.856	-1.035	0.678	-0.905	0.066	No Mediation
OJS – Negative Affect – TIS6 <sup>2</sup>	.254**	-0.754**	0.261**	-0.225*	-0.197	0.042	-0.284	-0.116	Mediation

Note: N<sup>1</sup> = 27, N<sup>2</sup> = 100; \*p < .05., \*\*p < .001.

## 7.16. Summary of Findings

The findings related to the experience sampling investigation in this research are summarised in this section. This summary begins by considering bonus pay as an event in comparison with other events included in the investigation, then considers the relationships between the predictor and dependent variables in the research. The results are summarised for all events and for bonus pay as a specific event, considering the effects of event as well as the predictor variables of justice, emotion score, positive state affect, negative state affect and social exchange relationship quality on turnover intention.

### 7.16.1. Summary of Hypotheses

A summary of the hypotheses addressed in this investigation is provided in Table 59. There is support for hypothesis 6a and 6b as the relationship between organisational justice and positive state affect is significant and positive, and the relationship between organisational justice and negative state affect is significant and negative, indicating that as perceptions of justice increase the strength of positive emotions increases and the strength of negative emotions decreases. There is some support for hypothesis 7, but there is also some nuance with this hypothesis. While anger is the most frequent primary emotion elicited as a result of bonus pay, when all of the emotional responses to bonus pay are considered disappointment is the most frequent. This is due to the type of emotion changing over time, with the emotion of anger becoming the emotion of disappointment over time for many participants. There is support for hypothesis 8a or 8b (though only when positive or negative state affect are considered as variables in place of emotion score) as where bonus pay is concerned both positive affect and negative affect significantly directly predict turnover intention and therefore meet the standards of an affective event. It is perhaps interesting however that if the predictor variable of emotion score is included in the place of positive or negative affect then bonus pay would not be considered an affective event as emotion score does not significantly directly predict turnover intention. This classification of being an affective event is therefore dependent on the variables considered in its definition and testing. There is support for hypothesis 9 as organisational justice is positively related to social exchange quality, which in turn is negatively related to turnover intention. Consistent with this relationship justice is also negatively related to turnover intention showing that as justice increases social exchange relationship quality increases, and turnover intention decreases. The investigation also finds partial support for hypothesis 10. Negative state affect mediates the relationships between organisational justice and both social exchange relationship quality and turnover intention, however positive state affect does not.

Table 59.

*Hypotheses addressed by experience sampling investigation with outcomes*

<b>Hypothesis</b>	<b>Description</b>	<b>Comment</b>
H6a,6b	Organisational Justice appraisals as a result of bonus pay are positively related to (a) positive emotions and negatively related to (b) negative emotions.	Support
H7	Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay.	Partial Support
H8a,8b	Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship and (b) a unique effect above and beyond those of social exchange relationship quality effects on turnover intention.	Support
H9	Organisational justice is positively related to social exchange quality, which in turn is negatively related to turnover intention.	Support
H10	The relationship between justice and both social exchange relationship quality and turnover intention is mediated by positive or negative state affect.	Partial Support

#### 7.16.2. Workplace events

Considering all events reported as part of the experience sampling investigation, the majority of events constitute acts of colleagues, acts of managers and acts of customers (with a cumulative frequency of 59.9% of all events covered by these three categories). The total number of events recorded during the analysis is 2480, of which 127 are reported as financial recognition (or 5.1% of all events). As there are 31 individuals participating in the research, there is therefore an average of 4.1 financial recognition events reported per participant (with the maximum number of reports 6 and the minimum 3). This indicates that though financial recognition is announced only once per participant, it is reported as an event on average for more than 24 hours by participants (as there are 4 salient events recorded per 24-hour period). The event which happens least frequently over the research period is 'violation of trust' with only 39 occurrences of this event across all participants (or

1.6% of the total events) followed by 'Technical involvement' (with 2.5% of the total events) and 'Goal achievement' (with 2.6%).

Considering the relative differences between events when predicting turnover intention several interesting comparisons can be made. In terms of the variance explained at different levels of analysis, there is a lower level of between person (Level 2) and higher level of within person (Level 1) variance identified for financial recognition as an event than for other events, with 63.1% attributed to Level 2 variance for financial recognition compared to above 78% for all other events (or at least those with a sufficient sample size to be included in the analysis). There are also differences in values of predictor variables for specific events, with social exchange relationship quality a stronger predictor of turnover intention for fairness or discrimination ( $\beta = -.62$ ,  $p < 0.05$ ) than for all other events, with the next strongest relationship between social exchange relationship and turnover intention for financial recognition as an event ( $\beta = -.60$ ,  $p < 0.001$ ). The event with the weakest significant social exchange relationship quality – turnover intention predictive relationship is 'ability to influence' ( $\beta = -.144$ ,  $p < 0.05$ ). Organisational justice is a stronger predictor of turnover intention for financial recognition than for all other events ( $\beta = -.401$ ,  $p < 0.001$ ) followed by acts of customers ( $\beta = -.391$ ,  $p < 0.05$ ). The event with the weakest significant justice – turnover intention predictive relationship is 'acts of colleagues' ( $\beta = -.174$ ,  $p < 0.05$ ). Emotion score does not form a significant predictor of turnover intention for any of the individual events considered but does predict turnover intention for all events in aggregate (though this relationship is negative and weak;  $\beta = -.085$ ,  $p < 0.001$ ).

### 7.16.3. Emotional responses to workplace events

Emotional responses to all aggregated events are positive with 61.7% of reported emotions positive and 38.2% negative. This can be compared to financial recognition as an event where 21.2% of reported emotions are positive, and 78.8% of responses negative. The most frequent emotion as a result of all events is pleasure (with 17.7% of events eliciting pleasure) followed by anger (17.3%). For the case of financial recognition, the most frequent emotion is disappointment (with 44.9% of emotions being disappointment for financial recognition), followed by anger (31.5%). For financial recognition the predominant emotions in terms of frequency are therefore negative, compared to predominantly positive emotions for all events in aggregate. The most frequent primary emotion for financial recognition (i.e. the immediate emotion as a result of the bonus announcement) is anger, however for many participants (12 of the 14 participants who report anger as the primary emotion), anger does not persist and becomes disappointment over time, showing that as time passes it is not only

the strength of emotion which changes, but also the type of emotion elicited as a result of bonus pay as an event. Considering the frequency of emotion related to each event in isolation would miss such dynamics.

#### 7.16.4. Relationships between emotion, justice, social exchange and turnover intention

Using the transformed variable of emotion score as well as the more traditional variables of positive and negative state affect allow for the investigation of the relationships between emotion, organisational justice, social exchange relationship quality and turnover intention. Emotion score displays a moderate positive correlation with social exchange relationship quality ( $r = .51$ ,  $p < 0.01$ ) and a strong positive correlation with organisational justice ( $r = .77$ ,  $p < 0.01$ ). Emotion score also displays a moderate negative correlation with turnover intention ( $r = -.42$ ,  $p < 0.01$ ). As organisational justice and social exchange relationship quality increase, therefore, emotions become positive and stronger, whereas as emotions become negative and stronger turnover intention increases. When considering individual emotions separately the strongest correlations exist between anger and organisational justice ( $r = -.51$ ,  $p < 0.01$ ), anger and social exchange relationship quality ( $r = -.31$ ,  $p < 0.01$ ) and anger and turnover intention ( $r = .28$ ,  $p < 0.01$ ). Though other significant correlations exist between distinct emotions and these three variables they are weaker than the relationships with anger.

Considering the effect of emotion score and positive affect and negative affect when predicting variance in organisational justice, social exchange and turnover intention variables also reveals some interesting relationships. Focussing efforts on financial recognition as an event, emotion score is a significant predictor of variance in justice ( $B = 0.077$ ,  $p < 0.05$ ) and social exchange relationship quality ( $B = 0.266$ ,  $p < 0.05$ ) but is not a significant predictor of variance in turnover intention ( $B = -0.042$ ,  $p > 0.05$ ). In fact emotion score does not form a significant predictor of variance in turnover intention for any event when events are considered separately. Positive affect is a significant predictor of variance in justice ( $B = 0.110$ ,  $p < 0.05$ ), social exchange relationship quality ( $B = 0.105$ ,  $p < 0.01$ ) and turnover intention ( $B = -0.368$ ,  $p < 0.05$ ). Negative affect is a significant predictor of variance in justice ( $B = -0.211$ ,  $p < 0.05$ ), social exchange relationship quality ( $B = -0.350$ ,  $p < 0.01$ ) and turnover intention ( $B = 0.121$ ,  $p < 0.05$ ). These findings suggest that positive and negative affect have differential predictive effects on different variables in the research, with positive affect predicting turnover intention to a greater extent than negative affect, but the reverse true when predicting social exchange relationship quality. This also suggests that given the definition of an affective event as having a direct emotional effect on turnover intention

above and beyond the more cognitive effect of social exchange relationship quality, that financial recognition should not be considered an affective event if emotion score is used as a variable, however when positive and negative state affect are used financial recognition as an event does classify as an affective event. This may be due to weaknesses in the construct of emotion score as a variable attempting to describe positive and negative emotions as polar states, when some researchers have suggested this is theoretically unsound (Watson & Tellegen, 1985).

#### 7.16.5. Emotion as a mediator in justice relationships

In terms of the relationships between organisational justice and social exchange relationship quality and organisational justice and turnover intention for financial recognition as an event, there are differential mediating effects from positive and negative affect. Positive affect does not mediate the relationship between organisational justice and either social exchange relationship quality or turnover intention, as indicated by tests using bootstrapping with results shown in Table 58. Negative affect does however mediate these relationships. In the case of negative affect mediating the relationship between justice and social exchange relationship quality the indirect effect is stronger than the direct effect, and in the case of the relationship between justice and turnover intention the direct effect is stronger. Whilst in the existing literature emotion and social exchange are often seen as two separate lenses for viewing justice-outcome relationships, these results showing emotion mediating the relationship between justice and social exchange (albeit only for negative emotion), suggest a more complex relationship. Rather than treating these emotion and social exchange relationship lenses as separate, this research suggests that they are inter-related, and with techniques such as experience sampling now open to researchers to understand their relationships the nature and strength of these relationships is a potential avenue for future research.

#### 7.16.6. Differences in groups

There are some differences in the workplace events which are reported by groups under investigation, though these differences are limited to company. The frequency of some events (such as acts of colleagues, acts of managers, acts of customers and goal achievement) vary significantly across INSCO and MEDCO. INSCO reports higher incidences of acts of colleagues, acts of managers and goal achievement, and fewer incidences of acts of customers, as would perhaps be expected from the summaries provided to each company (where INSCO is described as inward facing and having little

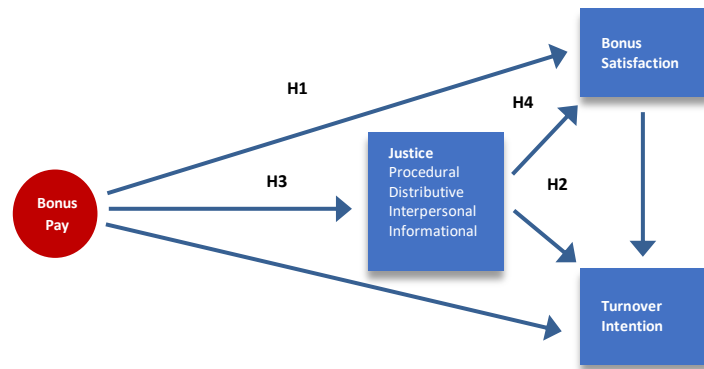
contact with external customers, whereas MEDCO participants are described as spending much of their time with customers). There are no significant differences in the frequency of events experienced by different genders. This indicates that though working for a different company in a different industry can alter the general work experience (at least related to the events which participants report), this experience does not vary significantly by gender in those groups, with male and female respondents experiencing a similar frequency of event.

## 8. Discussion

### 8.1. Introduction and aims of the research

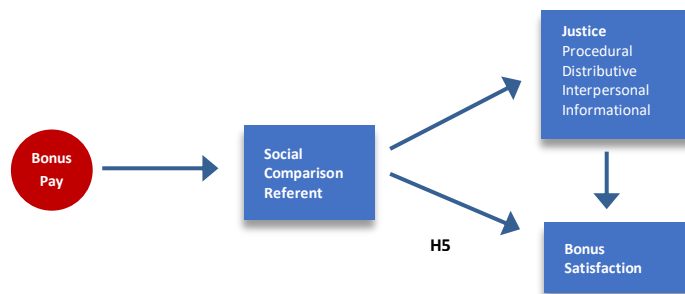
The aim of this research is to contribute evidence to the current understanding of bonus pay, and the impact bonus pay has as an event which provokes a justice appraisal in organisational life. The thesis adds to the current knowledge in two ways, the first by extending the relationships found in existing literature around pay, justice, satisfaction and turnover intention to bonus pay as a specific form of remuneration, and the second by considering the relationships between emotion, social exchange relationship quality, justice and turnover intention for bonus pay as a workplace event. While previous research has suggested that fairness is a primary reason for counterproductive outcomes where pay (and bonus pay) is concerned, the relationship between bonus pay, organisational justice and organisational outcomes has received little attention in the existing literature, especially in research conducted in-situ in the workplace. In considering bonus pay in a cross-sectional investigation this thesis seeks to further understand relationships between bonus pay and perceptions of justice (and the distinct scales of procedural, distributive, interpersonal and informational justice), satisfaction with a bonus and turnover intention. It also seeks to investigate the social comparison referents selected in bonus situations, and the relationship between this selection and bonus satisfaction. Finally the thesis uses an experience sampling investigation to consider the two common lenses for viewing justice appraisals in the justice literature, the emotional lens which suggests that people 'feel' emotion as a result of justice which then leads to downstream attitudes (Cropanzano, Stein, & Nadisic, 2011), and the social exchange relationship lens which suggests that justice is a key indicator of social exchange relationship quality on a more cognitive level (Colquitt, 2008). This research considers the effects of emotion on both justice-social exchange relationship quality and justice-turnover intention relationships and analyses the potential mediating relationships involved in both of these paths. By considering bonus pay as an event in the context of other events which happen in the workplace the research seeks to understand the relative effects of bonus pay compared with these other events. It therefore seeks to understand the differential effects of justice, emotion and more cognitive appraisal mechanisms such as social exchange relationship quality when predicting turnover intention (both for bonus pay and for other workplace events). The relationships and hypotheses this research addresses are summarised in Figures 31, 32 and 33 along with comments related to levels of support for each of the hypotheses.





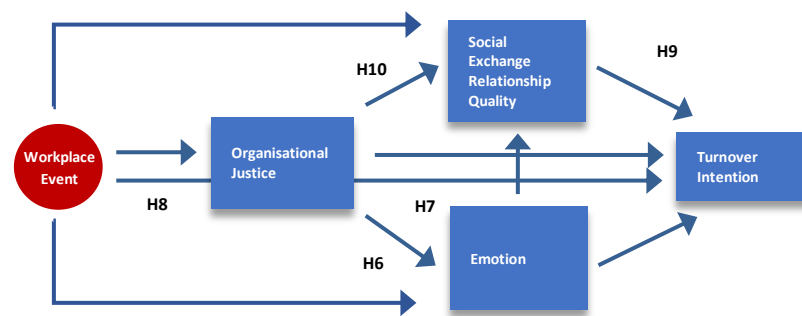
Hypothesis	Description	Comment
H1	Bonus amount will demonstrate a linear relationship with bonus satisfaction	No Support
H2a,b	Organisational justice is positively related to (a) bonus satisfaction and negatively related to (b) turnover intention	Support
H3a,b	Organisational justice will mediate the relationship between a) bonus amount and bonus satisfaction and b) bonus amount and turnover intention	Partial Support
H4	Distributive justice will be a better predictor of bonus satisfaction than procedural, interpersonal and informational justice components	Support

Figure 33. Outline of the first figure describing the relationships between bonus pay, organisational justice, bonus satisfaction and turnover intention.



Hypothesis	Description	Comment
H5a,b	a) Multiple referents will be very important to the majority of participants when engaging in social comparisons on receipt of their bonus. b) The referent selected as being most important in determining bonus satisfaction will be those in the same company at the same level.	No Support

Figure 34. Outline of the second figure describing the relationships between bonus pay, social comparison referent, organisational justice and bonus satisfaction.



Hypothesis	Description	Comment
H6a,b	Organisational justice appraisals as a result of bonus pay are positively related to (a) state positive affect and negatively related to (b) state negative affect	Support
H7	Anger will be the most frequent emotional response to justice perceptions triggered as a result of bonus pay	Support
H8a,b	Bonus Payment will be a work event which can be considered an affective event as per the tenets of AET and will therefore have (a) a direct affective relationship on turnover intention and (b) a unique effect above and beyond that of social exchange relationship quality on turnover intention.	No Support
H9	Organisational justice as a result of bonus pay is positively related to social exchange quality, which in turn is negatively related to turnover intention	Support
H10	For bonus pay the relationship between justice and both social exchange relationship quality and turnover intention is at least partially mediated by positive or negative state affect.	Support

Figure 35. Outline of the third model showing proposed workplace event, organisational justice, social exchange and emotional responses and turnover intention relationships.

## 8.2. Discussion of the findings

To effectively discuss the extent of the findings this discussion will refer once again to the relationships underpinning the research, summarised in Figures 31, 32 and 33. As the research is concerned with bonus pay as an organisational event, the main focus will be on the findings considering bonus pay both in the context of the relationship between bonus amount and the associated justice, satisfaction and turnover intention appraisals made by participants, and in the context of bonus pay as an event during which emotional, justice, social exchange relationship and turnover intention appraisals are made. In this section the thesis will consider each of the relationships and hypotheses in Figures 31, 32 and 33 in turn, and describe the findings of this research and how they sit within the current literature. The section begins by considering the relationships between bonus amount, organisational

justice, bonus satisfaction and turnover intention (i.e. the relationships described in Figure 31). It then considers bonus pay as an organisational event in the context of other workplace events, considering the relative relationships between bonus pay and emotion, social exchange relationship quality, justice and turnover intention for bonus pay and other workplace events (i.e. the relationships described in Figure 33), before finally considering the referents selected in bonus pay situations and their relative associations with organisational justice and bonus satisfaction (the relationships described in Figure 32). Finally, the section will consider the implications of the findings and evaluate the theoretical contribution this thesis makes to the current literature, before providing an evaluation of the methodologies used and suggesting directions for future research.

#### 8.2.1. Bonus pay, referent selection and justice

The amount of bonus paid, either in terms of absolute amount or as a percentage of salary, demonstrates no significant relationship with the choice of referent. Position (whether manager or non-manager) is however significantly related to a single referent (those at the same level in the same organisation) though this relationship is weak. This is consistent with other research which shows that patterns of referents are reasonably stable and more dependent on social, educational, situational or positional differences (Goodman, 1974). Contrary to previous research considering referents and pay which suggest that multiple referents are used when determining whether a pay award is fair (e.g. Hills, 1980; Brown, 2001; Bygren, 2004; Koop & Johnson, 2012) this thesis shows that in bonus situations the majority of participants suggest that one or fewer referents are very important to determining fairness. The referents selected by participants are, however, related and the choice of referent influences bonus satisfaction and turnover intention differently. Relationships exist between most referents to a lesser or greater extent. A discussion of some of the stronger of these relationships will highlight this.

If participants choose 'what this company promised to pay me' they are also significantly more likely to choose 'what other employers are paying for my kind of work', but significantly less likely to use internal referents (i.e. those in the same company at the same, higher or lower levels). This could indicate that promises of a bonus are linked to the external market through comparisons with other employers, and that these promises make internal comparisons less likely by clearly setting expectations (therefore negating the need for participants to seek information within the organisation by investigating comparisons with internal referents). This is consistent with findings in the research which suggest that when bonus amount is framed as a percentage of salary (a common practice when a bonus is

promised) informational justice becomes a mediator of bonus amount - bonus satisfaction relationships, whereas when bonus pay is framed as an absolute amount procedural justice becomes a mediator. Participants choosing 'cost of living' comparisons are more likely to compare their bonus with 'what other employers are paying' and 'previous pay', and less likely to use internal referents. These internal referents are also related, with job level comparisons (specifically between same job level and higher job level, and higher job level and lower job level internal comparisons) forming the strongest relationships.

The relationships between referents selected and justice appraisals where bonus pay is concerned adds to the existing literature, as there are few incidences of studies investigating these relationships. Internal comparisons at the same level negatively predict perceptions of justice related to treatment (interpersonal justice), though this relationship is weak. Justice is not directly predicted by internal comparisons with those in higher or lower positions in the same organisation, which is perhaps surprising and contrary to general pay research which suggests these reference points are important in determining satisfaction (e.g. Law & Wong, 1998). This finding could potentially be explained by the findings in previous referent research which demonstrates that both upwards and downwards comparisons are important to fairness perceptions through the process of self-evaluation (Wheeler et al., 1982). Considering all referents, those which predict justice are internal company promises, the cost of living, previous pay and sense of self-worth. The selection of these referents predicts different scales of justice, a finding which in itself provides new insight. Company promises of a bonus predicts procedural, distributive and informational justice, though these relationships are weak. The cost of living negatively predicts procedural and distributive justice, with the relationship between 'cost of living' as a referent and distributive justice strongest of all referent relationships predicting justice. This may offer insight into the relative dissatisfaction with bonus pay across participants. If the strongest predictor of injustice is comparisons with the cost of living these negative attitudes may be predicated on the lag in earnings growth in comparison with the growth in the economy, and therefore the rising cost of living compared to pay. Previous job and self-worth comparisons predict similar justice relationships (distributive, interpersonal and informational) and to a similar degree. The only difference is that previous job comparisons negatively predict justice (so as this referent is selected more, justice decreases) whereas self-worth comparisons positively predict justice. This may indicate differences in sources of expectation around bonus pay. Self-worth correlates moderately with the referent of bonuses paid in previous jobs as we would potentially expect, as evaluations of self-worth must be drawn from somewhere in order to anchor expectations. There may be many reasons why comparing the bonus to that awarded in previous jobs would decrease fairness perceptions, including positive biases

associated with past events, memory distortions as well as attenuation of emotional influences on appraisals made at the time.

Perhaps the most surprising finding in this research (which is contrary to much of the social comparison research involving pay in general) is the finding that organisational justice is more strongly predicted by comparisons with external referents than internal (Wade et al., 2006; Law & Wong, 1998; Kulik & Ambrose, 1992). This is more interesting given that internal referents tend to be selected more frequently in comparisons, with 'those at the same level' and 'those at a higher level' the most frequently reported 'important' or 'very important' referents. Why are these internal referents chosen more frequently if they have no direct effect on justice appraisals? One possible mechanism suggested by this and other research (e.g. Gardner et al., 2004) is that social comparison processes using workplace referents exist in two stages. Participants may use internal referents to develop a sense of self-worth, which is then used to determine levels of justice when compared to external referents. Self-worth is related to other external and internal referents, therefore there is the potential that internal referents such as those at a higher job level do influence fairness through the process of evaluation of self-worth. When direct effects are considered, however, the majority of these significant effects exist between external referents and justice scales. Another interesting finding is the surprising lack of predictive effect when internal referents are chosen. The combined direct effects of same level, higher level and lower level internal comparisons on justice are negligible. When internal referents are used justice does not become an issue in general and this referent type does not predict variation in justice. When external referents are used, however, justice does become an issue. Rather than a bonus being a signal for comparisons with internal referents from which sources of unfairness are drawn, a bonus therefore would appear to be more of a signal to evaluate external comparisons which lead to perceptions of justice. The pathways related to referent selection where bonus pay is concerned is an area of potential future study in order to fully test these stages of evaluation.

#### 8.2.2. The relationships between bonus pay, justice, bonus satisfaction and turnover intention

The research considering bonus pay (both in terms of absolute amount and as a percentage of salary) shows some interesting and perhaps surprising results. The amount of bonus paid (both in terms of absolute amount and as a percentage of salary) does not significantly predict bonus satisfaction or turnover intention directly. Whilst there are plausible reasons as to why bonus amount should not be directly related to outcomes (such as expectancy-based

theories and heuristics such as anchoring biases) this is contrary to much of the research suggesting a complex relationship between pay and outcomes, but a relationship nonetheless (e.g. Gneezy, 2004; Gneezy & Rusticini, 2000; Pokorny, 2008; Grandey et al., 2002; Pouliakas, 2010). Due to this lack of a significant predictive relationship between bonus amount and both satisfaction and turnover intention directly, the analysis of relationships between bonus pay and justice becomes more relevant. Bonus as a percentage of salary does predict variance in both procedural justice and informational justice, though not distributive or interpersonal justice. Similarly, bonus in terms of absolute amount predicts interpersonal justice but no other justice scale. While it may appear surprising that there is no direct significant relationship between bonus amount and distributive justice (as the definition of distributive justice describes the fairness related to how rewards are allocated; Colquitt, 2001), this may be because perceptions of distributive justice relate to the difference between expected bonus amount and actual amount and not to the actual amount. The significant relationships between bonus amount and the other types of justice may suggest that procedural and informational justice are more important in an organisation where the proportion of pay based on performance is higher, or where the instrumentality of the bonus is greater and so is more likely to draw justice appraisals. Similarly, interpersonal justice is also likely to increase with bonus amount as organisations may be more likely to be careful about how they treat high value employees. While distributive justice predicts variation in bonus satisfaction more than other scales of justice, there is some slight overlap in the measures, with an item of the bonus satisfaction survey loading equally onto each measure in a factor analysis.

The mediating effects of different justice scales also demonstrate interesting findings. Interpersonal justice mediates the relationships between bonus amount (in terms of percentage of salary and absolute amount) and both bonus satisfaction and turnover intention suggesting that this element of justice mediates all relationships in the analysis and is therefore important to all appraisals. Procedural justice mediates relationships only where bonus as an absolute amount is considered. This may be a result of organisational procedures related to the bonus. If a bonus is promised to an employee and communicated as a percentage of their salary (a category in our list of organisational referents), then the procedure is made transparent and clear and may be seen as the communication of a promise of a bonus. If the bonus is provided as an absolute amount then this may lead employees to investigate the procedures by which this amount was arrived at, therefore making procedural justice a more relevant scale of justice. Informational justice follows an inverse pattern to procedural justice, mediating the relationships between bonus as a percentage of salary and both bonus satisfaction and turnover intention, but not mediating

the relationships between bonus as an absolute amount and either bonus satisfaction or turnover intention. This may indicate that when bonus is calculated as a percentage of salary the information provision and communication mechanisms become more important to employees in determining bonus satisfaction and turnover intention (perhaps as the process for calculating the bonus is already clear). For bonus as an absolute amount (where the process is perhaps less clear) informational justice does not mediate relationships with either bonus satisfaction or turnover intention whereas procedural justice does, perhaps indicating that when the process is unclear then procedural clarity (and therefore procedural justice) becomes more of a focus for employees than informational justice.

In terms of the relationships between justice, bonus satisfaction and turnover intention, there are both similarities and differences when compared with previous research. Consistent with the research of Folger & Konovsky (1989), Shaw et al. (2002), Tremblay et al. (2000) and DeConinck and Stilwell (2004) amongst others, this thesis shows that as perceptions of justice increase so does pay satisfaction (though in this case the specific form of bonus satisfaction is considered, therefore adding to the existing research). Similarly, this thesis shows that as perceptions of justice increase then turnover intention decreases, consistent with the research of Grant et al. (2007) and Mason and Watts (2009). In terms of the types of justice considered, the work of Colquitt et al. (2013) suggests that distributive justice is a stronger direct predictor of task performance than other forms of justice, but that informational justice is a stronger direct predictor of organisational citizenship behaviours and counterproductive work behaviours than other forms of justice. The results in this thesis suggest that while distributive justice is a stronger direct predictor of bonus satisfaction than other forms of justice, interpersonal justice is a stronger direct predictor of turnover intention than other justice scales. This may, however, be because the effect of distributive justice on turnover intention comes as much through bonus satisfaction as it does directly, as distributive justice explains the majority of the variance in bonus satisfaction, which in turn has the greatest effect on turnover intention of all of the variables under investigation. It may also be because of the differences in outcome measures considered, as previous research has shown that different scales of justice are related to different outcome measures (e.g. Colquitt, 2001; Colquitt et al., 2013). In order to see whether the results of Colquitt et al. (2013) are repeatable the research would therefore need to consider the same outcome measures. As the work of Colquitt et al. (2013) is a meta-analysis and the author has previously called for dynamic research into justice, social exchange relationships and emotion this thesis provides an example of how such research can be conducted. While this thesis has contributed to the existing research by demonstrating the relative associations between different scales of justice and the variables of bonus satisfaction and turnover

intention, a potential fruitful area for future research would be to replicate the variables considered in the meta-analysis of Colquitt et al. (2013) using an in-situ experience sampling investigation.

These results indicate that employers seeking to maximise satisfaction and minimise turnover intention as a result of bonus pay should focus on a number of areas. Considering all relationships, it would appear that an improvement in perceptions of distributive justice is related to an improvement in bonus satisfaction, which is in turn related to a reduction in turnover intention. This path has both the strongest and most highly significant relationships in the research. As there is no relationship between bonus amount and distributive justice the practical implications of this are, however, unclear. Choosing whether to frame a bonus as a percentage of salary or as an absolute amount has a significant effect on organisational justice appraisals (and which justice scales are used in appraising satisfaction). These justice scales in turn have a range of different strengths of relationship with bonus satisfaction and turnover intention. In all cases a focus on improving interpersonal justice and the treatment employees receive when a bonus is announced improves satisfaction and decreases turnover intention due to its role as a mediator in all justice-dependent variable relationships. Dependent on whether the bonus is framed as a percentage of salary or as an absolute amount, the results suggest that employers should focus on information provision or clarifying procedures used in allocating the bonus respectively. This provides strong guidance in determining remuneration strategies used by organisations when paying a bonus. Traditionally there has been a focus on the amount paid and an assumption that distributive justice is more important in generating justice appraisals related to the amount received in a bonus. This research suggests that distributive justice is not related to the amount paid, and that a focus on the treatment, information provision and process elements of a bonus announcement can play a significant role in improving satisfaction and decreasing turnover intention when the bonus amount is taken into account. The strength of relationship between distributive justice and bonus satisfaction, but lack of relationship between bonus amount and distributive justice is a potential area for further investigation and raises some interesting questions about how distributive justice perceptions are developed by participants if not based on the amount of bonus. Including an additional question in the research related to how well expectations of a bonus were met may help to address differences in expectations versus actual reward in future research and may help to clarify distributive justice relationships.



### 8.2.3. Bonus pay as a workplace event

Researching bonus as a specific event within a range of other events occurring in the workplace allows for an understanding of the relative relationships between bonus pay and other variables included in the research in comparison with other events. Workplace events are in general associated with positive emotions, though bonus pay as a specific event is generally associated with negative emotions. These emotions are unstable over time. While the most frequent primary emotion elicited (i.e. the first emotion recorded by participants) as a result of bonus pay is anger, this emotion does not persist over subsequent diary entries related to financial recognition. Anger as a resulting primary emotion in justice research has been a focus for many authors (e.g. Barclay & Kiefer, 2019; Gibson & Callister, 2010) and this thesis supports this focus. The most frequent emotion overall, however, as a result of bonus pay is disappointment indicating that for many participants anger turns to disappointment over time. This finding is interesting in itself as previous researchers suggest that as a result of pay emotion strength attenuates over time becoming less acute (e.g. Mikula et al., 1998), but few researchers have investigated how emotion type changes over time as a result of pay, or bonus pay specifically. Investigating how distinct emotions change over time (both in terms of strength and type of emotion) as a result of different workplace events is another avenue for potential future research. Previous researchers (e.g. Weiss & Cropanzano, 1996; Basch & Fisher, 2000) have considered emotional reactions to workplace events, but have treated these emotions as relatively stable over time once elicited. The finding of this thesis are more consistent with the work of Elfenbein (2007) who suggests that various reappraisal and feedback loops may serve to alter an emotion over time once the initial event has taken place. In this research 10 of the 31 participants report consistent emotion as a result of bonus pay (i.e. the first emotion they report is the same as subsequent emotions reported as a result of bonus pay), with 21 reporting emotions related to bonus pay which differ over time.

Comparing the relative relationships between each predictor variable and turnover intention for each event in isolation allows for a direct comparison of workplace events. More variance occurs within participants than between participants for financial recognition (with an ICC of 0.631) compared with other events covered in the research (where the ICC ranges from 0.795 to 0.998), suggesting that reactions to bonus pay are more uniform across participants than for other events. There is no significant relationship between emotion score and turnover intention for any of the events researched, suggesting that none of the events included is an affective event by traditional definitions (in that emotion does not directly predict turnover intention above and beyond cognitive elements such as social exchange

relationship quality). This finding is contrary to existing research which suggests that direct emotional responses may be as important or more so than social exchange relationship when determining outcomes (e.g. Weiss & Cropanzano, 1996). This finding may, however, be due to methodological weaknesses in the development of the emotion score scale (as for financial recognition as an event emotion score has no significant relationship with turnover intention but the more theoretically consistent scales of positive state affect and negative state affect do have significant relationships with turnover intention). Justice has a significant relationship with turnover intention for 5 of the 13 events researched, with the strongest relationship being for financial recognition as an event indicating that for all events considered financial recognition (or bonus pay) generates the strongest justice effect when predicting variance in turnover intention. Social exchange relationship quality is significantly related to turnover intention for all events other than conflict, with the strongest relationship being for fairness or discrimination as an event (followed by financial recognition).

Social exchange relationship quality has a stronger relationship with turnover intention than the other variables considered in this research for all events, though it is worth noting that when all events are considered in aggregate both emotion score and justice significantly predict social exchange relationship quality and turnover intention, perhaps indicating complex relationships between the constructs. The potential limitations associated with the methodology, and specifically the choice of events and treatment of emotion in this research will be discussed in a later section. It is possible that bonus pay may be coded as either 'financial recognition' or 'fairness or discrimination' as events by participants which may influence these results. The lack of direct significant relationship between emotion score and turnover intention for any individual event can be further investigated by considering the more granular (and some researchers would suggest more theoretically consistent) measures of positive state affect and negative state affect, albeit for the single event of financial recognition. For this event when state affect is included there are significant direct relationships between both positive and negative affect and turnover intention (with the relationship between positive affect and turnover intention stronger than the relationships between both positive affect and social exchange relationship quality and justice and turnover intention, and the relationship between negative affect and turnover intention weaker than these relationship with other variables). This indicates that positive and negative affect have a somewhat asymmetrical relationship with other variables in the investigation. These are relationships which would have been missed had the research considered only emotion score as a variable. This can be highlighted by considering the mediating role played by affect in justice and social exchange and justice and turnover intention relationships. While positive affect does not mediate the relationships between

justice and social exchange relationship and justice and turnover intention, negative affect does. In the case of social exchange relationship quality, the indirect effect is stronger than the direct effect, whereas in the case of turnover intention the direct effect is stronger, providing additional support for the finding that bonus pay can be considered an affective event.

It is perhaps worth noting that though turnover intention has been selected as a proxy outcome for turnover in this research, turnover intention is an attitude rather than a behaviour (i.e. it represents intent to leave the organisation rather than actually leaving). The tests in this research considering whether an event is an affective event may therefore be misleading as this classification is dependent on both the dependent variable chosen, and the treatment of emotion as a variable. When developing the hypothesis, the choice of social exchange relationship quality as a cognitive measure and turnover intention as the dependent variable (and proxy outcome) was made in part to sit within the research parameters of the thesis and provide some consistency with the findings of previous investigations. Similarly, the use of emotion score as a measure was designed to unify a complex emotion scale into a single measure for ease of analysis. Substituting these variables (i.e. social exchange relationship for turnover intention as a dependent variable in the case of emotion score, and substituting emotion score for state affect in the case of turnover intention as a dependent variable) changes the outcome of this hypothesis. In order to test whether bonus pay (and the other events considered in this thesis) are truly affective events a further analysis including positive and negative state affect as emotion variables, and the inclusion of real outcomes rather than the use of proxy outcomes would be warranted and may provide a further avenue of research.

#### 8.2.4. Justice, emotion, social exchange relationship quality and turnover intention

A primary aim of the research is to contribute to the understanding of the co-occurrence of emotional and cognitive processes in justice appraisals, and to test their relative associations with turnover intention. While both emotional and cognitive components of justice have been researched (along with their relative impact) in meta-analyses (e.g. Cohen-Charash & Spector, 2001; Colquitt et al., 2001; Viswesvaran & Ones, 2002), it is difficult to draw comparisons of relationship effects as data is not collected at the same points based on the same events using the same measures. Considering therefore the differential relationships between emotion, social exchange relationship quality and turnover intention attempts to address this gap in the current literature. For financial recognition as an event both positive and negative affect predict turnover intention directly. There are also

Significant relationships between positive and negative state affect and social exchange relationship quality. This may suggest that rather than being complimentary viewpoints for considering justice these emotional and cognitive components are more closely related than the treatment of them as separate lenses suggests. This thesis therefore lends support to the numerous calls in the existing literature to treat emotion and social exchange as co-occurring phenomena (e.g. Skitka et al., 2003; Greenberg et al., 2007; Colquitt et al., 2013). It also provides some support for the research of Weiss and Cropanzano (1996) which suggests proximal organisational events are a source of emotional reactions, which in turn influence attitudes, behaviour and outcomes. This is consistent with attitude formation theories (e.g. Eagley & Chaiken, 1993) which suggest that emotions precede cognition and attitudes which in turn lead to behaviour and outcomes. Rather than being truly co-occurring it may indicate support for the event-emotion-attitude-behaviour pathway suggested by both Weiss and Cropanzano (1996), and Eagley and Chaiken (1993). While this thesis provides some evidence for the direction of relationships, further analysis will be required to truly test whether these relationships are causal.

#### 8.2.5. Organisational differences

While the majority of the findings in this thesis are discussed at the general level, there are some pronounced differences in the data returned by participants from each company researched. There are no conclusions regarding company differences to be drawn from the cross-sectional study as this was not a variable recorded, however the salary and bonus figures returned by participants would suggest that there are a range of practices used by companies which can all sit under the remit of bonus pay. Both an employee paid a salary of £35,000 (but with a bonus of £30,000) and an employee paid £60,000 (but with a bonus of £5,000) are categorised as receiving a bonus. The differences in instrumentality of these sums to the participant may lead to different attitudes and reactions from employees. Using mean scores to understand the bonus paid to employees may obscure these differences. When this thesis considers the workplace events recorded in different organisations it sees some (though not extensive) differences. As an example, there are differences for acts of customers and acts of managers both in terms of their frequency and relationships with turnover intention across organisations (which are consistent with the descriptions of the organisations provided by the sponsor in each organisation). Certain events can lead to different emotions in different organisations (e.g. conflict elicits the emotion of pride in one organisation and fear in another) which may speak to the source of the conflict as much as

the event itself, or a lack of consistent understanding about the nature of conflict as a category.

One of the clear weaknesses in this research related to using a checklist of multiple events is the ability of participants to select those which are closer to their understanding of the actual event occurring in the workplace. Whilst financial recognition is relatively clear as a category, and the research was timed so that only one incidence of financial recognition occurred during the research period, it is possible that if participants judged their bonus to be unfair that they selected 'fairness or discrimination' as a category. Other events (e.g. an argument with a co-worker) could easily be coded as 'acts of colleagues', 'conflict', 'fairness or discrimination' or a selection of other events dependent on the viewpoint of the participant. It is therefore difficult to truly understand the nature of the events which occur in the workplace using this system of coding and analysis. This is a further limitation in the research if each event is considered in isolation and could be mitigated in future research either by developing clearer categories of event or by sharing tangible examples of the meaning of each category of event included. This may also potentially explain differences in the emotion elicited by the same event in different organisations. Organisational norms may, for example, lead some participants to code an event where positive challenge as a result of differing viewpoints as 'conflict' (albeit productive conflict), leading to the emotion of pride. Participants in this organisation may be primed to see positive conflict as beneficial and a behaviour which the organisation rewards and recognises. In another organisation any type of conflict which disturbs the status quo (either positive or negative) may be seen as harmful, and therefore elicit fear. These differences have not been investigated in this thesis.

#### 8.2.6. Gender differences

Differences in responses between male and female participants exist across this research and offer some interesting insight. There are significant differences reported in position (whether manager or non-manager), salary and bonus across male and female participants. Perhaps interestingly female participants report lower salaries and lower amounts in bonus paid as an absolute amount compared to male participants, though there is no significant difference in bonus as a percentage of salary. This indicates that female participants tend to be non-managers and are paid lower and receive lower bonuses than male, but they receive proportionally the same bonus in relation to their salary as male participants. In terms of the events and emotions reported by male and female participants in the research there exist some though not extensive differences. There are no significant differences in the events reported by male and female participants, though female participants report lower mean

incidences of regret as an emotion, and differences in mean strength of the emotions of interest, fear and anger than male participants (with female participants reporting higher mean strength of interest, but lower mean strength of fear and anger).

Though there are some differences in position, salary, bonus amount, event and emotion variables, there are no significant differences between male and female participants considering bonus satisfaction, justice or turnover intention variables, indicating that male and female participants perceive similar levels of justice and satisfaction and are similarly likely to have turnover intentions. Another interesting difference between male and female participants is in the referents selected in order to arrive at these justice perceptions. Male participants are more likely to choose 'others in this company at my level', 'what other employers are paying', 'what I think I am worth' and 'others in this company at a higher level' than female participants. It may be possible that though male and female participants arrive at similar levels of justice, satisfaction and turnover intention that the way in which these appraisals are made differ as the groups use different sets of referents to determine justice. This finding may also highlight some interesting aspects related to a potential gender pay gap (Blau & Kahn, 2007). While in this research female participants earn less in salary and bonus, they tend to find this equally fair and be equally satisfied in relation to male participants. This may be because female participants use different sets of referents with which to compare their pay, or may be because female participants judge these differences in pay to be fair as a result of differences in the roles played by each gender in the workplace (as male participants tend to be managers more often than female). As a result, female participants have no more intention to leave the organisation than male participants.

### 8.3. Discussion of the implications

The implications of this research investigation are broad. Bonus pay has become more popular as a reward practice in many industries in recent years, and this research questions the perceived direct relationship between bonus pay (in terms of the amount paid) and attitudes such as bonus satisfaction and turnover intention. Rather than the amount of bonus paid, this research suggests that other variables included such as justice, affect and social exchange relationship quality are more strongly related to attitudes such as bonus satisfaction and turnover intention. Justice partially mediates bonus amount – satisfaction and bonus amount – turnover intention relationships, but only when bonus as a percentage of salary is considered. It does not mediate these relationships when bonus as an absolute amount is considered, indicating that how a bonus is framed and calculated is important in determining whether a recipient is satisfied, and whether they intend to leave the

organisation. These effects can be further seen by interrogating the mediating effects of different scales of justice, which suggest that if a bonus is framed as a percentage of salary then interpersonal and information elements of justice mediate bonus amount-attitude relationships, whereas if a bonus is framed as an absolute amount procedural and interpersonal justice scales mediate bonus amount-attitude relationships. Viewing justice as a single construct would miss these nuances.

For practical implications, these findings suggest that the way in which a bonus is framed is important (whether as a percentage of salary or absolute amount). Interpersonal justice is important as it mediates both bonus-satisfaction and bonus-turnover intention relationships, and depending on the framing of a bonus organisations should focus on either clarifying processes used to determine the award (in the case of framing bonus as an absolute amount) or providing information and communication related to the bonus award (in the case of framing bonus as a percentage of salary). A further implication of the research considers the control which organisations have in directing social comparison mechanisms. If an organisation becomes more transparent around bonuses and makes a promise of a bonus (sometimes in practice coding the amount into total pay in the form of a promise dependent on performance) it is less likely that employees will then seek internal referents with which to compare their bonus to judge whether their bonus is fair or not. These internal referents appear to be important for self-worth evaluations, which may then be used by employees as a comparison against external referents to make turnover intention judgements. These results suggest that by offering more information and certainty over bonus amounts in the form of a promise these reference dependent processes can be altered and somewhat controlled. As referent selection predicts justice, bonus satisfaction and turnover then controlling which referents are selected may have beneficial outcomes. This may be especially important when considering gender pay issues in the workplace as the research suggests that there are significant differences in the referents selected by male and female participants, though levels of justice, satisfaction and turnover intention as a result of bonus pay are not significantly different.

There are further practical implications related to the experience of the workplace addressed in the research. As experience sampling is used it offers a rich view of the events, emotions, justice appraisals and social exchange relationships in the workplace. This provides managers with an understanding of the emotions experienced by employees as a result of organisational stimuli, and the effects of these emotions on workplace attitudes. It also provides a framework for the interrogation of the effects of these distinct events. The differences in emotion and the relationships between variables returned for financial

recognition are different for other events included in the research, as an example, and the subsequent relative relationships between emotion, justice and social exchange relationship and turnover intention are different for each event. By understanding the pathways in this research and the relative effects of each event managers can seek to optimise the employee experience to improve social exchange relationships in the workplace and retain employees. They can also begin to understand the different events which make up a 'typical' experience for employees and begin to tailor organisational support mechanisms to better help employees cope with workplace events. As an example, the research has demonstrated differences between organisations and genders in terms of workplace events and emotions recorded which may require different coping mechanisms to be employed (for example managing the effect of acts of colleagues as an event may involve different practices than managing the effect of acts of customers). By using the analytical framework in this research managers can better tailor the support provided to these specific aspects of the employee experience.

As well as implications for how the bonus is framed and communicated, and which elements of justice should be the focus in bonus pay situations, there are also implications for bonus pay as an event. This research suggests that of all the workplace events studied, justice is the strongest predictor of turnover intention for financial recognition as an event, and social exchange relationship quality is a stronger predictor of turnover intention for the events of fairness or discrimination and financial recognition than for the other events included in the research. Financial recognition therefore appears to be a particularly salient event where turnover intention is concerned as a result of stronger justice and social exchange relationships effects on turnover intention for this event. The research also suggests implications for how organisations reward and recognise individuals. While for events such as non-financial recognition the relationship between justice and turnover intention are non-significant, social exchange relationship does form a significant relationship with turnover intention. Both financial and non-financial recognition therefore have the power to alter the social exchange relationship to an extent where employees consider their future with the organisation, possibly through a re-evaluation of their standing and worth in the organisation. Financial recognition, however, has an additional direct justice effect on turnover intention (as well as a potential effect of justice through social exchange relationship quality) which suggests different appraisal mechanisms are used by employees for these different means of recognition. These are effects which should be carefully considered by managers and reward practitioners in a practical sense when determining organisational reward and recognition strategies.



A further implication addresses the purpose at the outset; to contribute evidence to the current understanding of pay, bonus pay, and to investigate the relationships between variables for bonus pay as an event in the context of other events experienced in organisational life. Many of the relationships addressed in this research are not consistent with those in existing literature considering pay as a general concept (for example the complex relationships between pay and outcomes and the social comparison referents selected in pay situations) which demonstrates the need to consider bonus pay as a separate and unique form of remuneration than pay level or salary. This thesis is consistent with existing research which suggests that organisational justice mediates the relationship between pay and turnover intention (e.g. Grant et al., 2007; Winter-Ebmer & Zweimuller, 1999). This finding is both consistent with broad panel data which suggests a mediating role for justice on pay (and bonus pay in particular) and performance relationships found in the economics literature (where other mediating effects are typically not considered), and also helps to explain some of the more complex relationships between pay and performance found in the psychology literature (through the mediating effects of justice). The question for reward strategists and organisations in general is whether the positive effects of bonus pay as a reward strategy in terms of potentially increasing performance are worth both the negative emotions associated with bonus pay and the changes to employees social exchange relationships, which in turn are associated with turnover intention. The general feelings of anger and disappointment elicited in employees appears to harm the social exchange relationships within the workplace, which while perhaps improving performance in the short term may introduce longer term perverse consequences. This is worthy of further study.

#### 8.4. Evaluation of theoretical contribution

This thesis has sought to contribute to theoretical domains in a number of areas as well as addressing limitations in the current literature. There is little direct research considering bonus pay and subsequent attitudes conducted in-situ in the workplace. In the past bonus research (e.g. Gneezy & Rusticini, 2000; Pokorny, 2008) has been concerned with students as participants, or has taken place in laboratory conditions. The generalisability of the results to workplace situations has therefore been questioned. This thesis has contributed to the growing body of work considering workplace events, expanding the number of events considered in current literature using experience sampling methods, and investigating the emotions associated with distinct workplace events. Certainly, the findings that bonus pay is an affective event (albeit when state affect is considered rather than emotion score) contributes to the literature, and the use of affective events theory as a lens to view bonus

pay is a novel approach. These findings also raise questions about the treatment of events as affective events in general, as the results have shown that none of the events researched in this thesis can be classified as affective events by the definitions in this thesis, and that the classification of being an affective event is dependent on the variable chosen as an outcome or outcome proxy and the treatment of emotion when analysing these relationships.

Similarly, there is a lack of research into the social comparison mechanisms used when a bonus payment is announced (as previous research favours pay in general). This thesis has therefore contributed to the literature by considering the referents used when bonus pay comparisons are made. The findings showing which referents are selected, and also which referents when selected have a significant relationship with attitudes provide practical guidance for remuneration professionals when defining organisational policies around pay. They also provide interesting findings which play into a very real discussion on the gender pay gap and highlight the pathways different genders potentially use when making bonus satisfaction and turnover intention appraisals. The research has also contributed to the field of organisational justice, which although one of the most widely researched constructs in recent years still offers areas for investigation. It has augmented this body of research by considering justice relationships in the context of bonus pay (and other events which have been under-researched, such as systems involvement), and the relationships between bonus pay and the justice scales of procedural, distributive, interpersonal and informational justice which show that nuances such as how a bonus is framed can play a significant role in predicting the scales of justice used by participants to judge satisfaction with a bonus. The thesis has also contributed to the understanding of the relative emotional and cognitive aspects of justice. Justice and emotion researchers have highlighted the gaps in the literature considering the co-occurrence of both emotional and cognitive elements of attitudes for a number of years, with more recent justice researchers directly pointing to a need to research emotion and cognitive effects using experience sampling methods (ESM). By linking research into workplace events, justice, the distinct emotions associated with these events and the subsequent relationships with turnover intention this thesis has added depth to a range of existing research and set a path for future investigation.

#### 8.5. Evaluation of the methodologies used

The methodologies used in the research were fit for purpose to effectively investigate the relationships highlighted in this thesis. Given the number and nature of the variables under investigation it was appropriate to segment the research. The cross-sectional investigation was deployed consistently and with the same levels of information and engagement. The

experience sampling investigation maintained high engagement and had the full involvement of the participating organisations. There are, however, limitations in a number of areas. The cross-sectional survey was generally conducted in corporate organisations and generally used middle- to upper-level management employees, therefore the generalisability of the findings to other groups within the workplace may be questionable. The method used self-report measures of pay, referents and attitudes and relied on disclosure of personal information, which may be open to error. The survey was conducted over a number of years, and conditions in the market or environment could potentially have changed leading to a general change in attitudes towards bonus pay in the intervening period. While the majority of data gathered in the cross-sectional investigation used proven measures, the collection of data related to social comparison referents offers some limitation. In the literature review two conditions are required for selection of a referent; information availability and relevance. By asking participants to choose which referents are important to fairness perceptions the thesis attempts to mitigate some of the limitations present in previous pay and referent research (where the frequency of referent selection is taken as importance of the referent to attitudes), but makes the assumption that referents which have high importance have met the two conditions of information availability and relevance. This is an assumption which may not be met. It is unclear whether participants have information on the salary or bonus received by others, so while they may be considered important as comparison points (and may be relevant), the absence of information may mean that they are not actually used as referents. These limitations do not invalidate the results but offer some examples of the risks of taking the data at face value.

In terms of the experience sampling investigation, limitations were more numerous. The need to work with participant organisations meant that all data capture processes were required to clear participant internal risk processes. This led to some measures being iterated (both in item number and syntax), though they maintained their meaning in light of the original measures. Participants were chosen by the sponsors within each of the organisations included, which typically introduces bias if they are not selected at random. Both organisations who agreed to participate preferred the use of paper diaries to capture data, rather than the suggested method of a mobile-enabled survey tool. Though this was not a clear limitation it did mean that participants were required to carry paper diaries at all times during the research, and that additional work was required in data entry stages. In order to limit the complexity of recording multiple events and multiple emotions participants were asked to record only the dominant event and dominant emotion associated with this event. This prioritisation may be a difficult task in itself after a difficult workplace event. In terms of the workplace events included, some events can be coded in a number of ways as

mentioned earlier in this thesis. As an example 'acts of managers' refers to the person the event relates to whereas 'fairness or discrimination' refers to the nature of the event, but if an event such as a manager rejecting a holiday request takes place it may be coded as both of these events in practice, with the participant coding the event based on their own preference. The workplace events included in the research were chosen from extant literature and tested in engagement workshops rather than conducting a-priori analysis of actual workplace events, and therefore there may be bias as employee's perceptions of events were included rather than actual events which occur in the workplace. The recording of workplace events and emotions may also act as a priming mechanism which makes events more salient to each participant and alters the meaning of subsequent events. This is also a limitation.

When emotions are considered, workplace events have been shown in current literature to be associated with a range of emotions rather than a single 'dominant' emotion. The necessity to select a single emotion may introduce error in two ways. Firstly, it may not be apparent to the participant which emotion is dominant as it can be difficult to self-select distinct emotions, especially when they are of similar strength. Secondly, many researchers have suggested that emotions are pre-cognitive, and that by the time an individual has registered an emotion a number of cognitive processes have introduced bias into these appraisals. As entries in the diary could be made up to 2 hours following the workplace event a number of cognitive processes and biases may take place in the time between the event and the recording of the event which seek to alter the perception of the experience. As suggested in the literature review (and as confirmed in the results regarding the emotions associated with bonus pay) emotions change over time in terms of their type and strength, and the closer the capture of the emotion is to the event the more accurate the record. There are naturally practical limitations to this, however it is a limitation in the research, nonetheless. Finally, the treatment of emotion as a measure in the research introduces a limitation. While researchers have suggested the existence of a single bipolar continuum for positive and negative feelings which would support the development of the emotion score measure (Russell & Carroll, 1999), there are others who maintain that positive and negative emotions cannot be treated as polar states of emotion (Watson & Tellegen, 1985). This may indicate that the emotion score scale is questionable theoretically. The results in this thesis would seem to support this, as when emotion score is used as a variable there is no direct significant relationship with turnover intention, but there are direct significant relationships between positive and negative state affect and turnover intention. In future research a more careful consideration of the assessment of emotion could be made.

The remaining measures used as part of our experience sampling research offer both strengths and limitations. It was perceived that the high levels of face-to-face engagement used when initially engaging participants, and the levels of autonomy given to participants when choosing appropriate research measures contributed to participant engagement over the duration of the research. Each of the measures is acceptable both in terms of its psychometric properties and suitability for the research methods, however their use as a battery of measures was not fully tested for internal consistency. The battery of measures includes questions specific to the event which has occurred, and questions related to the general organisational relationships (for example questions in the social exchange relationship scale include 'my relationship with my organisation is characterised by mutual trust'). These thematic changes are clearly evident in the questionnaire, and it was therefore difficult to randomise the questions in the measure (shown in previous research to improve accuracy; Siminski, 2008). Changes to specific measures (e.g. the short form organisational justice measure) were made to retain participants rather than for any clear statistical benefits. The first investigation in this thesis (the cross-sectional investigation) demonstrates that using the global construct of organisational justice may overlook critical differences related to the different scales of justice (e.g. procedural, distributive and informational justice), however changes to this measure meant that these scales could not be interrogated at a granular level. The length and duration of the completion of the full questionnaire was also tailored to participant requirements rather than for measurement rigour and constrained the use of measures in some instances.

There are other limitations in the data available and the ability of the tools used to process this data. Due to the number of events and the number of emotions investigated there are relatively few data points related to some of our findings. Certain events (e.g. fairness or discrimination) and emotions (e.g. love or hate) were not selected often enough by participants to provide an adequate sample size for inclusion in the analysis by event or emotion at a granular level. Some infrequent workplace events also have an effect on attitudes much greater than frequent events, and low sample sizes and differences in power for these events may therefore have a disproportionate influence on the results. While there are over two hundred thousand data points in our experience sampling investigation, only seven female participants reported incidents of 'violation of trust' as an event. Four non-managers reported 'violation of trust' as an event. Six non-managers reported 'acts of customers', all of which limit the ability to draw conclusions for these events related to certain demographic variables.

## 8.6. Suggested directions for future research

This thesis and associated results open a number of potential directions for future investigation. While the research has included a number of potential events, it has not studied the nature of these events. Acts of colleagues, as an example, is a broad category which could involve a number of 'acts', and further research into the constituent activities of each of the events included could offer opportunity for analysis. The research offers insight into bonus pay, being the first to the author's knowledge to present findings that the amount of bonus pay has no direct relationship with turnover intention or bonus satisfaction, however the potential for further research is great. 'Bonuses' as a term clearly covers a broad range of pay practices and percentages of variable pay in relation to salary. Research considering these differential pay strategies may be a further avenue, as well as the differential impact of these strategies on justice perceptions. The relationships between workplace attitudes related to justice may also be worth further investigation. Turnover intention, bonus satisfaction and social exchange relationship quality are all related to organisational justice but differentially (and with some variables at least partially mediating others). A more in-depth analysis of covariance relationships between these variables (as well as emotion as a variable) may clarify the directions and strengths of the associations between these variables. In terms of emotion, while this thesis has transformed distinct emotions into the variable of emotion score in this thesis, considering the relationships between variables and state affect as well as distinct emotions may also be an opportunity for further analysis (and may mitigate against objections that emotion score as a theoretically consistent measure). The attitudes considered in this research are limited to justice, social exchange relationship quality, bonus satisfaction and turnover intention. There is an opportunity to consider different attitudes related to justice to understand the effects of fairness perceptions on other workplace attitudes and behaviours such as commitment, innovation, organisational citizenship behaviours and counterproductive work behaviours if these constructs are identified as specific organisational needs. This thesis offers a productive framework for conducting such research.

The findings of this research have demonstrated that complex relationships exists between the types of event which occur in the workplace, organisational justice appraisals, emotions and attitudes such as social exchange relationship quality and turnover intention. The thesis has considered thirteen workplace events, yet the potential number of workplace events is far broader. This offers another further avenue for research, with potentially more impactful events omitted from this research. Similarly, though the research has considered two (albeit different) functions in different organisations, there is also the option to broaden the research

to many more functions and types of organisation. The two companies studied have demonstrated that they are sufficiently different in terms of the events, emotions and attitudes under investigation to begin to consider different organisations, and whether there are elements of the organisational climate which make the probability of certain events more likely (or indeed become norms in those organisations). The relatively small participant numbers in the experience sampling investigation (though producing many data points due to the nature of experience sampling) and also the inclusion of single functions from these organisations may also be unrepresentative of the organisation at large. As an example, this thesis has considered fewer than twenty-five employees in an underwriting function of an insurance company whose workforce totals more than fifty thousand, covering functions as diverse as claims, customer service, human resources, marketing, finance, product development etc. It is possible that all of these functions, due to their diverse work outputs, will be subject to different interactions and experiences. In a similar vein, this research has included manager and non-manager responses, yet there is an opportunity to consider a broader range of employees at different organisational levels or role types in future research. Understanding the differential workplace events which occur within process workers, knowledge workers, executive workers and innovation workers for example, may aid in the understanding of the fundamental practical and emotional workplace experience of these types of workers.

With the advent of broad organisational data collection practices the opportunity to automate many of the aspects of experience sampling research offers researchers opportunity to link psychometric with real performance data. By including tangible outcomes in the analysis rather than proxy outcomes (such as turnover intention) such analysis can also test the real effects of justice on behaviour rather than attitudes alone. Cloud based software such as Office 365 (© Microsoft) has the capability of recording data in real-time such as productivity data, networking data and keystroke data which are more tangible aspects of performance, and less open to self-report biases. By using technology to enable experience sampling in future bonus research, investigators can seek to capture a range of self-report and performance data coincidentally. There are natural limitations to the research in this area. Not all employees who have increased turnover intention will leave their role (intention to leave is not the same thing as leaving). There is no clear evidence that turnover intention increases cognitive load and reduces performance in our sample, or leads to increased incidences of counterproductive work behaviours. Any suggestions for future research would incorporate less manual recording techniques, and attempt to link the findings directly to performance or counterproductive work behaviours through these mechanisms.

Finally, the data collected offers a rich experiential landscape to further investigate workplace events, justice and attitudes. Whilst this thesis has not considered all of the potential analyses related to the data collected during the investigations (as this thesis seeks to investigate specific hypotheses), further modelling could provide additional insights. The methods used have led to the collection of a rich, time-based data set comprising event, emotional and attitude variables across a relatively long period in terms of experience sampling (for example other investigations such as Illes and Judge (2002) use a two-week window for data collection rather than one-month). This time-based intrapersonal journey, and the influence of workplace events on subsequent workplace events and attitudes is also a rich avenue for potential study. It is possible that if (for example) conflict is an event which becomes normalised through increased incidences of conflict, then appraisals will alter because of this. It is also possible (as demonstrated by previous researchers such as Harrison et al., 2006) that there are significant influences of time-based sequences on behaviour (i.e. certain decisions and behaviours are more likely at different times during the day) which could also offer a rich avenue for further investigation. The treatment in this thesis of the data as multi-level and hierarchical has outlined the potential methods for considering these different variables within levels in a multi-level model, and further analysis incorporating these variables and levels would add depth to the understanding of not just the momentary emotional and attitudinal effects of events, but also the inter-related nature of these events, emotions and attitudes.



## 9. Final conclusions

Bonus pay is a form of remuneration which is becoming more popular in reward strategies, yet there is little evidence related to the effects of bonus on either performance or other organisational constructs such as organisational justice and social exchange relationship quality. This thesis has added to this body of evidence, with results which are both novel and add practical guidance to reward strategists and practitioners when considering bonus pay as a particular form of pay. Bonus pay appears to act as a signal for an employee to engage in an organisational justice appraisal, which in turn is associated with both satisfaction with the bonus and turnover intention. Bonus satisfaction is the strongest significant predictor of turnover intention, and distributive justice is the strongest predictor of bonus satisfaction (out of all four of the justice scales of distributive, procedural, interpersonal and informational justice). Bonus satisfaction predicts 35% of the variance in turnover intention, whereas justice predicts 4.5% directly. Justice does, however, predict 83% of the variance in bonus satisfaction. There are complex mediating relationships of justice on both bonus amount and bonus satisfaction, and bonus amount and turnover intention relationships and these appear to depend on the scale of justice (i.e. distributive, procedural, interpersonal and informational) and type of bonus amount considered (i.e. whether considered as a percentage of salary or absolute amount). One of the novel findings of this research, however, is that neither bonus amount as a percentage of a recipient's salary nor bonus as an absolute amount predict bonus satisfaction or distributive justice directly. Bonus pay as an amount does predict other forms of justice, but these relationships are weak. This raises the question of how distributive justice appraisals are arrived at by participants if this is not predicted by bonus amount.

The referent selected by participants is directly associated with justice scales (with 12.2% of the variance in distributive, 6.4% of procedural, 6.6% of interpersonal and 9.3% of interpersonal justice predicted by referent selection), as well as both bonus satisfaction and turnover intention (with 17% of the variance in bonus satisfaction and 9.3% of turnover intention predicted directly by referent selection). Referent selection offers some novel insight as the referents identified in previous pay research as having the greatest effect on justice and turnover (i.e. those in the same company at the same level) are selected as most important most frequently in this study, but do not predict variance in either justice or bonus satisfaction directly. Other referents (such as the cost of living or sense of self-worth) do, however, predict this variance. This finding is consistent with other researchers who have suggested that internal referents may be used to arrive at a sense of self-worth, which is then used as a referent against external market referents to determine satisfaction and turnover intentions. It is also interesting to note that when participants use certain referents such as

the promise of a bonus, they are less likely to make comparisons with other internal referents. This suggests that reward practitioners may be able to limit the use of certain referent groups by making information about others more available, consistent with the current research identifying both information availability and relevance as necessary conditions for comparisons with referents. This research provides additional support to assist reward strategists with understanding which of these referents are positively and negatively related.

This thesis also offers insight into the role of bonus pay as a workplace event in comparison with other workplace events. Compared to all events in aggregate, where the emotion associated is generally positive, for bonus pay the emotions associated are overwhelmingly negative, with anger being the most frequent primary emotion (i.e. the first emotion felt as a result of the event) and disappointment being the most frequent overall emotion elicited (as anger changes into disappointment for many participants over time as a result of bonus pay). For bonus pay and fairness (or discrimination) as workplace events compared to the others included in the research both justice and social exchange relationship quality form the strongest relationships with turnover intention, indicating that these may be particularly salient events in the formation of organisational attitudes. Social exchange relationship quality forms the strongest direct predictor of turnover intention, though justice is also a significant and moderate direct predictor of social exchange relationship quality for all events in aggregate and for bonus event specifically. Justice is also a significant positive predictor of emotion score, which in turn is a moderate positive predictor of social exchange relationship quality. Emotion score for events in aggregate is a significant though weak negative predictor of turnover intention (indicating that as emotions become more strongly positive then turnover intention decreases), however the use of emotion score has some methodological limitations. When positive and negative state affect are included as variables they demonstrate different asymmetric relationships with outcomes, perhaps indicating that the theoretical concerns with the use of emotion score ( as a score representing polar emotional opposites symmetrically distributed) are warranted.

Given the breadth of the findings in this thesis centred around organisational justice research, but providing specific findings related to both bonus pay in terms of amount and bonus pay as an organisational event, it offers a range of insights to inform reward practitioners and researchers in a practical and theoretical sense. The thesis provides insight into the effects of bonus pay (both in terms of amount and as an event in comparison with other workplace events), referent selection, and the effects of justice (both as a global construct and considering the individual justice scales of distributive, procedural,

interpersonal and informational justice) on bonus satisfaction. It provides a deeper understanding of the emotional and social exchange relationship effects of justice, and the effects of justice, emotion, social exchange relationships and bonus satisfaction on turnover intentions as a result of bonus pay. It also provides an operationalisation of a theoretical framework suggested by previous researchers who have identified a need to integrate emotion and social exchange relationship constructs related to justice to test their mediating effects where organisational outcomes are considered, providing support for the suggestion that emotions mediate justice-outcome relationships. This not only contributes to the evidence related to bonus pay, justice, emotion, social exchange relationships and turnover intention, but also offers a guide for future investigations researching the performance effects of bonus pay in the workplace. As bonus pay is becoming an increasingly popular mechanism of reward this thesis uncovers some of the perhaps unintended (though perhaps intended if distress mediation hypotheses are considered) consequences of bonus pay in the workplace related to justice, emotion, social exchange and turnover intention, and provides additional insight to reward practitioners when determining reward strategies.

## 10. References

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## 11. Appendices

### 11.1. Appendix 1: Communications

The following pages contain relevant communications and engagement materials used with participants during the research. Included are the emails sent to participants in the cross-sectional survey to engage participants at all points during the process, and engagement materials outlining the process used in the experience sampling method to introduce the research to potential participants.

#### 11.1.1. Cross Sectional Investigation Engagement Materials

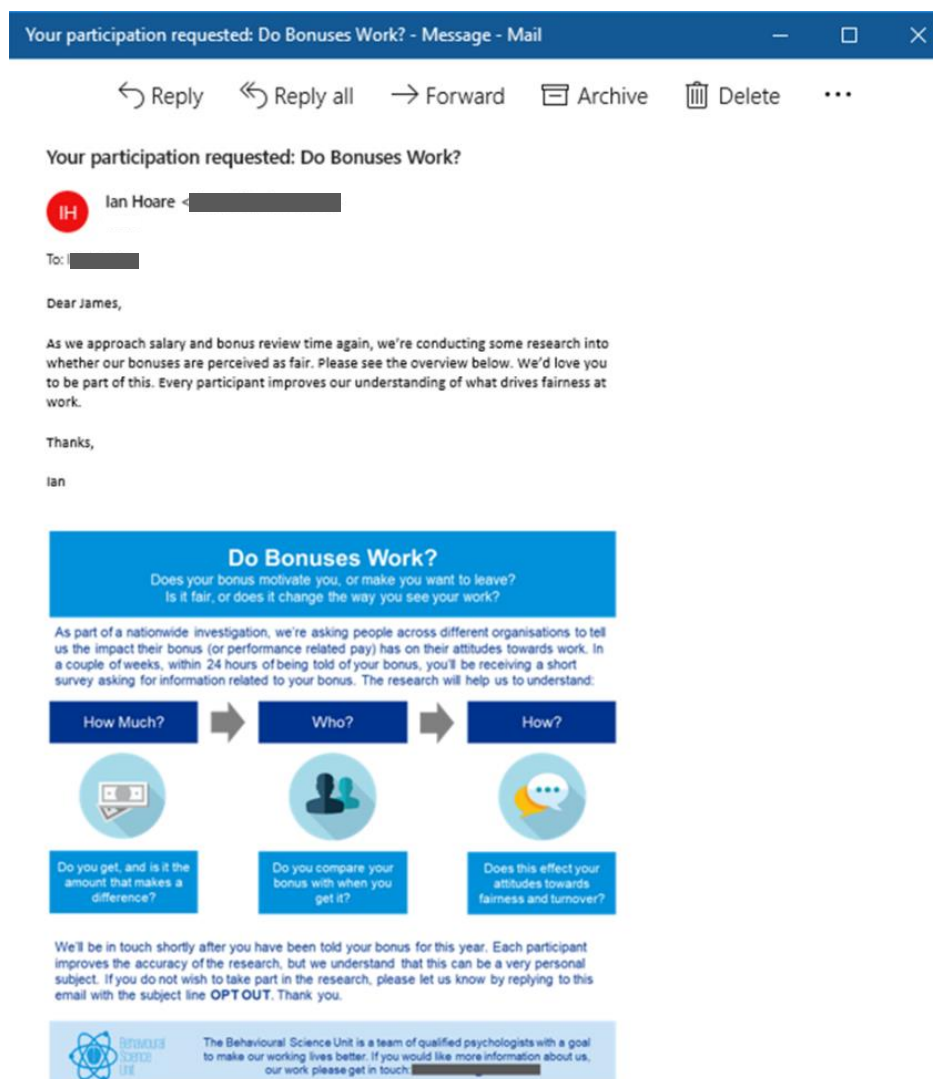


Figure 36. Example of initial engagement email for the Cross-Sectional investigation.

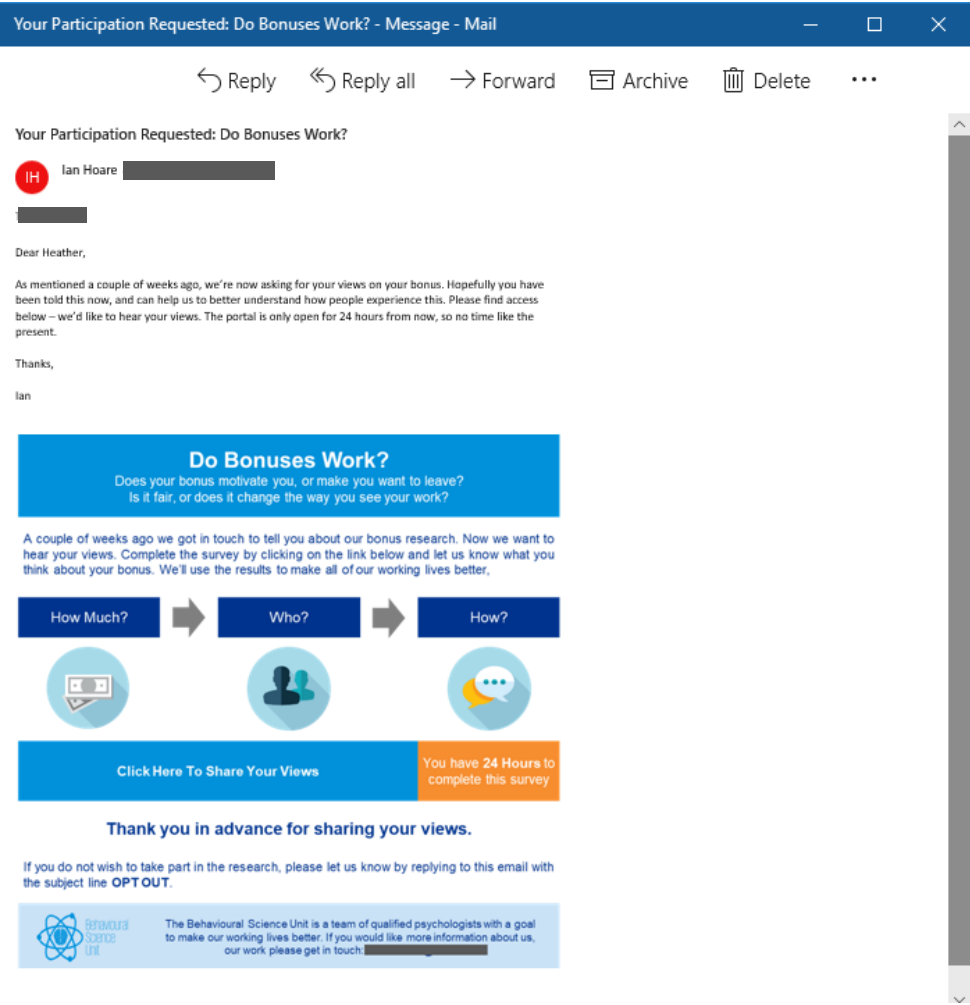


Figure 37. Example of launch email for the Cross-Sectional investigation

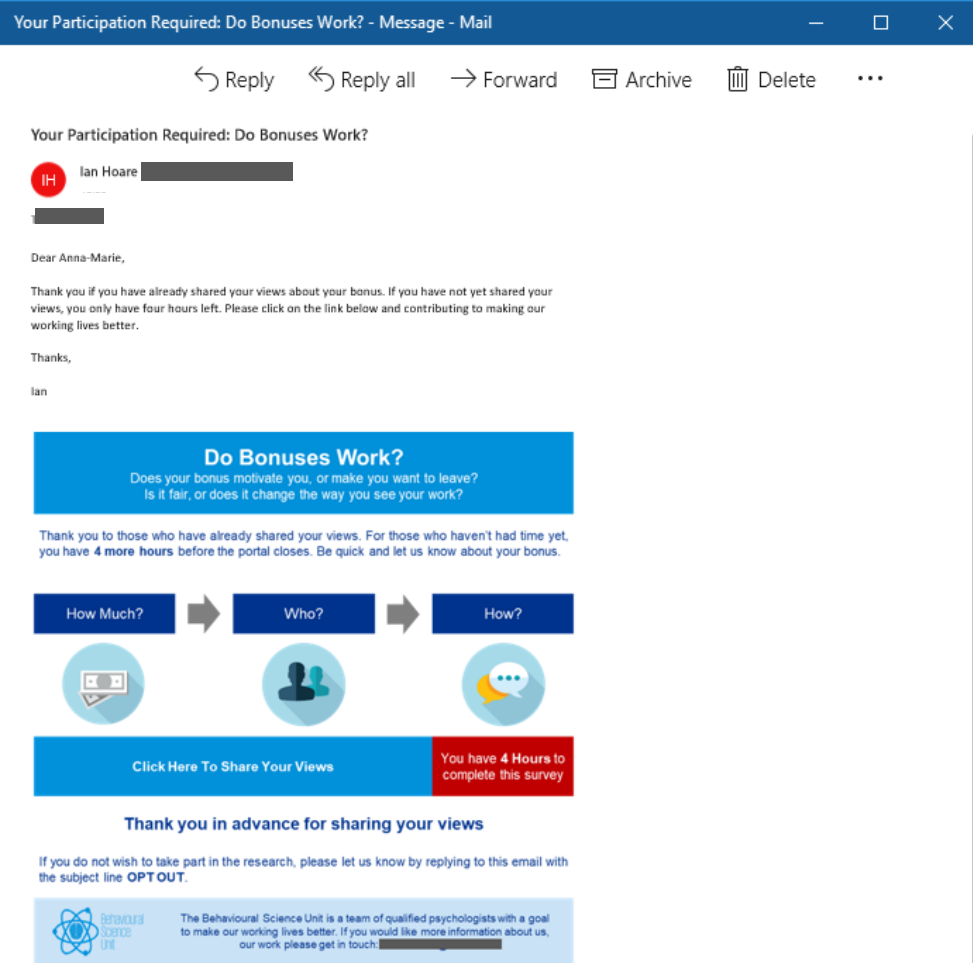


Figure 38. Example of a follow-up email used in the Cross-Sectional investigation

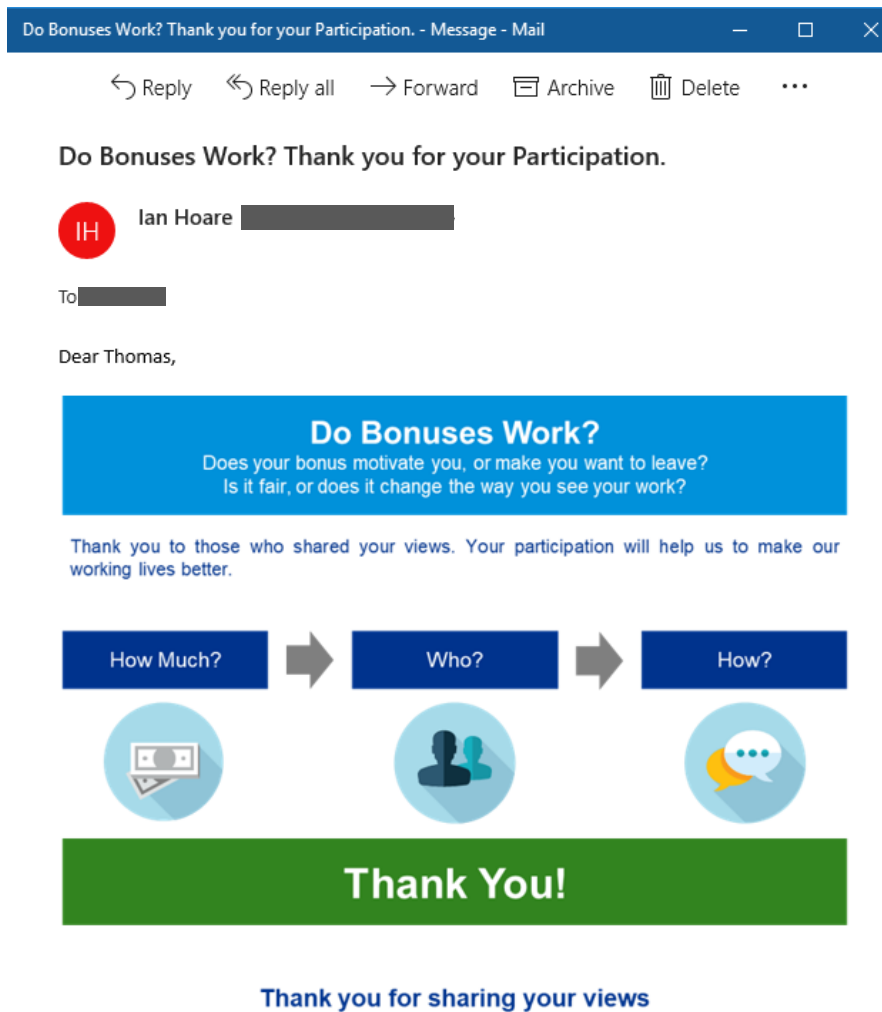


Figure 39. Example of a thank you email issued following completion of the Cross-Sectional investigation

### 11.1.2. Experience Sampling Investigation Engagement Materials

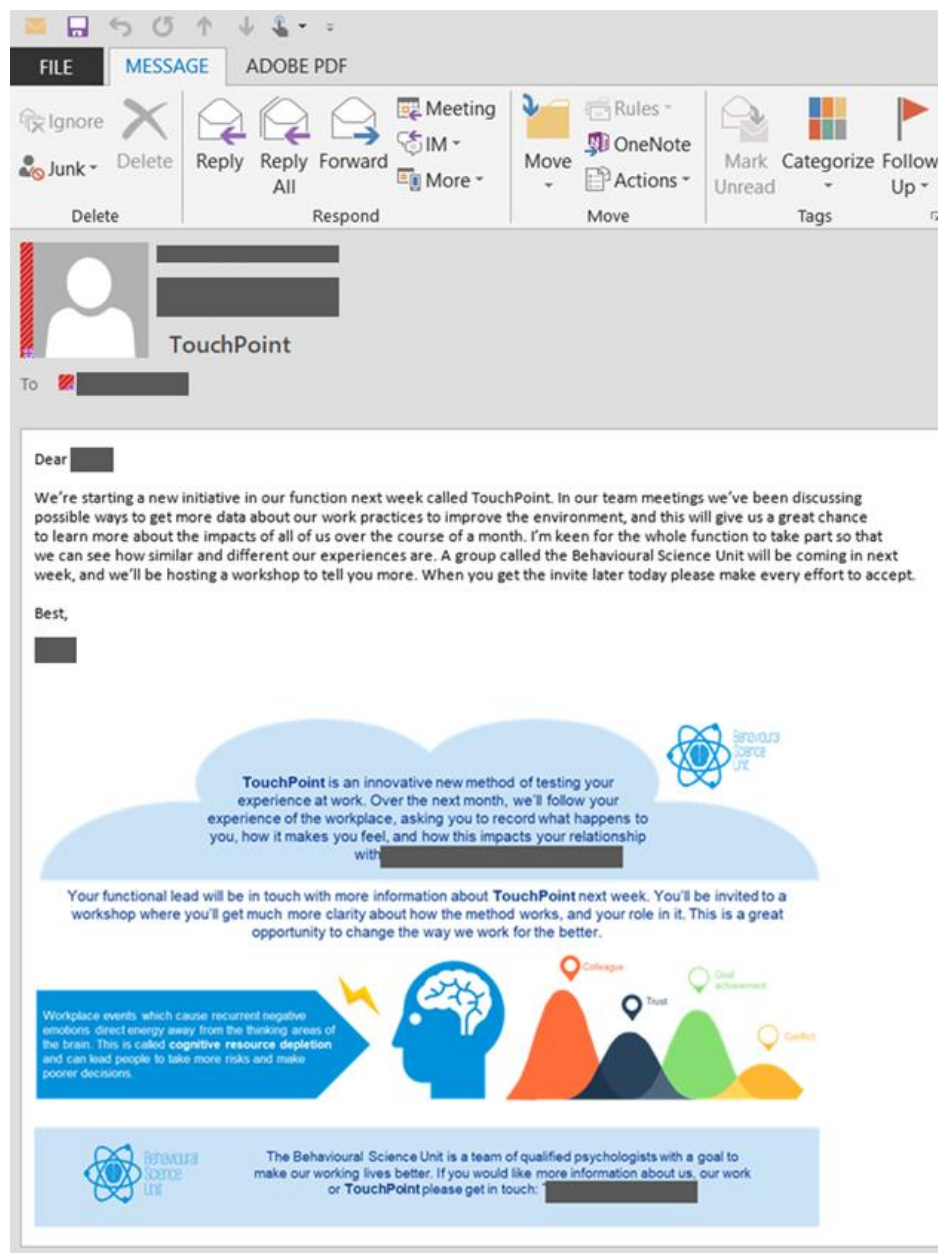


Figure 40. Experience sampling engagement email distributed by Functional Head



## 11.2. Appendix 2: Results and Measures

The following pages are appendices to the methods and results sections in the thesis, where interesting though not critical information has been placed to support the findings. This section firstly shows histograms from the cross-sectional study to support distribution assumptions and provide additional information related to referent selection, and then provides a variable catalogue for the experience sampling investigation to augment the research method discussed in section 6.

### 11.2.1. Justice and Referent Histograms from the cross-sectional study

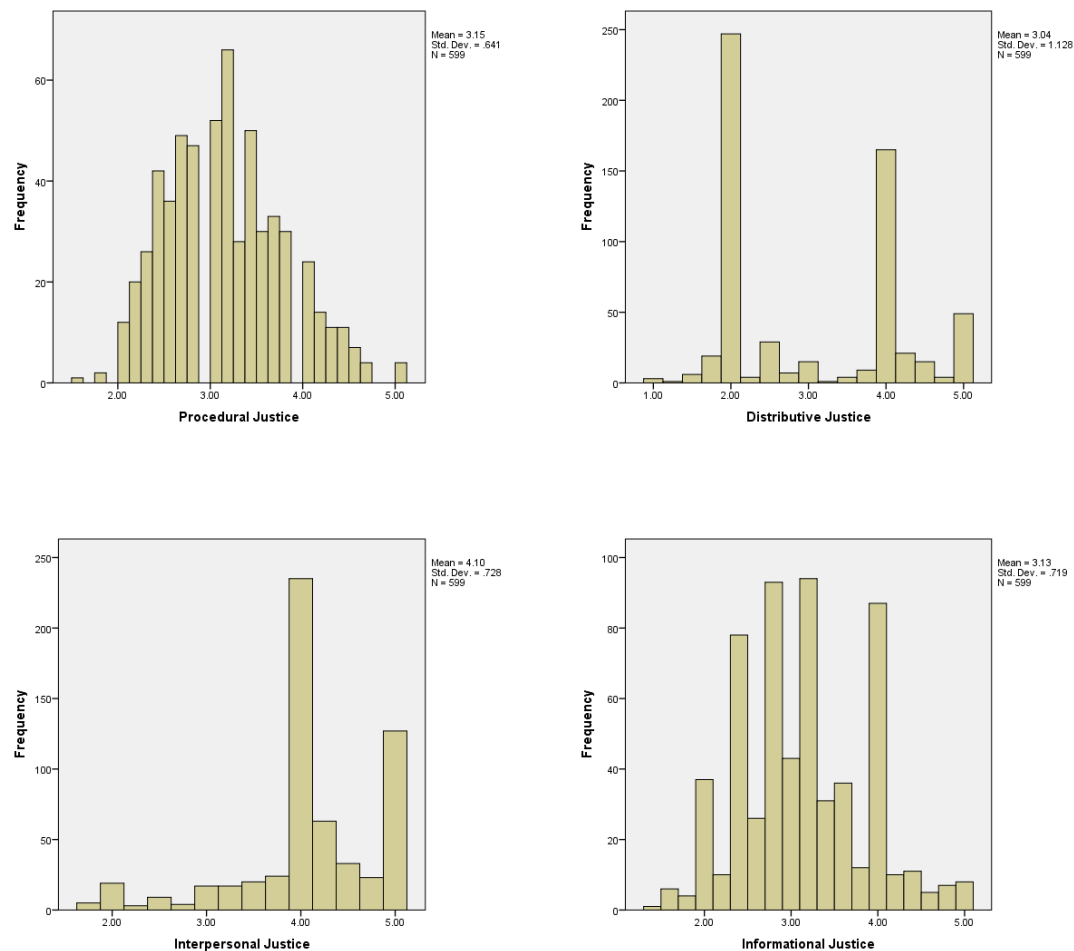


Figure 41. Organisational Justice Histograms

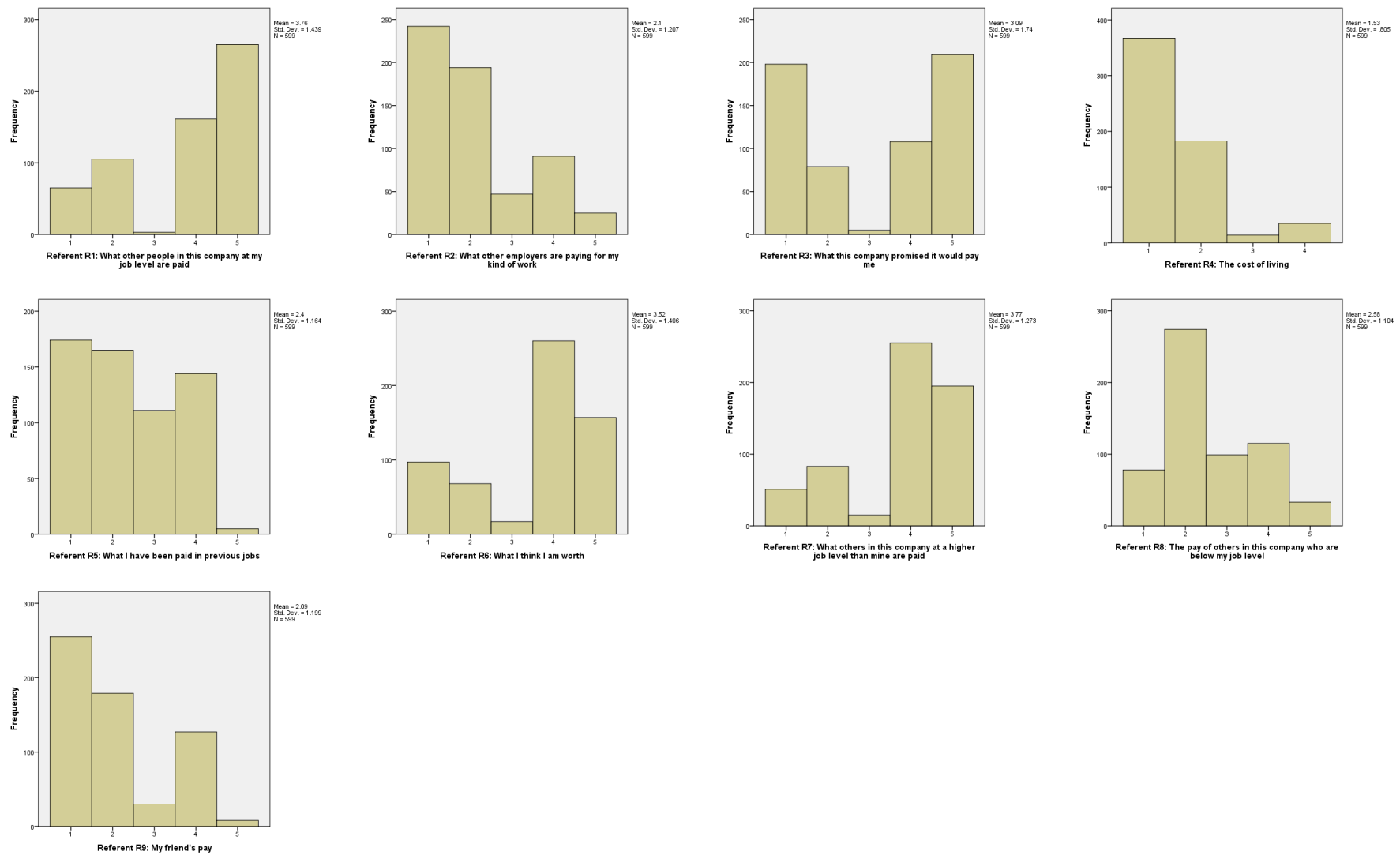


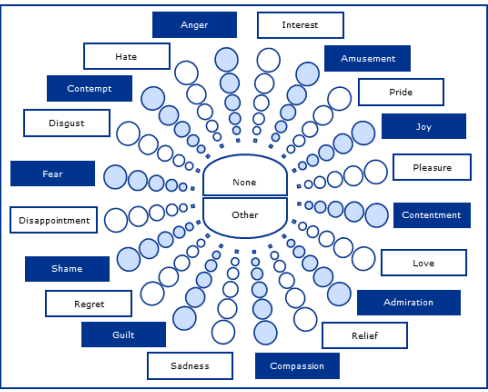
Figure 42. Referent histograms

## 11.2.2. Item-level Catalogue for the Experience Sampling Measure (detailed in Section 6)

### TouchPoint Study *Understanding our experience at work* Entry 88/88

Welcome to Touchpoint. Thank you for completing this entry in your diary, and helping us to make a better workplace for you and your colleagues. All of your entries are important, as they help us to build up a true picture of what happens to you at work, so keep it up!

Time: 10am	Acts of colleagues	
Date: 1 <sup>st</sup> November 2016	Acts of management	
Please reflect on events which have happened at work over the past two hours and complete the following information in the order presented. Reflect on your emotions and choose the event and emotion which has been most significant to you and which has remained strongly in your memory. If it's not there, write a brief description in other.	Acts of customers	
	Non-financial recognition	
	Financial recognition	
	Fairness or discrimination	
	Violation of trust	
	Conflict	
	Ability to influence	
	Process involvement	
	Technical/system involvement	
	Development	
Goal Achievement		
Other		



Once you have noted the type of event and emotion this has elicited, please complete the questions below using the scale indicated. All answers are confidential, so please be honest in your response. The first 5 questions relate to the event, and the remainder are general questions about your work relationship.

Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

☐ ☐ ☐ ☐ ☐

I was able to express my views and feelings						OJS
I felt that I was treated consistently						
I felt that things were handled in a way which was free of bias						
Everyone was treated with dignity and respect						
I was communicated with in a manner which I felt appropriate						
I feel that I get as much out of this as I put in						TIS6
I'm often frustrated when I can't achieve my own work-related goals						
I have often considered leaving my job						
I'm likely to accept another job at the same money if it was offered to me						
My current job is satisfying my personal needs						
I often look forward to another day at work						
I often dream about getting another job that suits me better						SERS
My relationship with [ ] can be characterised as mutual obligation						
My relationship with [ ] can be characterised as mutual trust						
My relationship with [ ] can be characterised as mutual commitment						
My relationship with [ ] can be characterized as mutual significance						

*Thank you for completing this entry*

Legend	Description
GEW	Scale of the Geneva Emotion Wheel (20 emotions measured on a 5-point Likert scale)
OJS	Measure of organisational justice consisting of 6 items
SERS	Measure of social exchange relationship quality consisting of 4 items
TIS6	Measure for Turnover Intention consisting of 6 items

Figure 43. Combined ESM questionnaire complete with legend identifying each measure

Table 60.

*Item level variable catalogue for the experience sampling investigation*

Variable	Item	Description
Event Type	13 item descriptions	Various events
Interest	Single item	Part of the Geneva emotion wheel
Amusement	Single item	Part of the Geneva emotion wheel
Pride	Single item	Part of the Geneva emotion wheel
Joy	Single item	Part of the Geneva emotion wheel
Pleasure	Single item	Part of the Geneva emotion wheel
Contentment	Single item	Part of the Geneva emotion wheel
Love	Single item	Part of the Geneva emotion wheel
Admiration	Single item	Part of the Geneva emotion wheel
Relief	Single item	Part of the Geneva emotion wheel
Compassion	Single item	Part of the Geneva emotion wheel
Sadness	Single item	Part of the Geneva emotion wheel
Guilt	Single item	Part of the Geneva emotion wheel
Regret	Single item	Part of the Geneva emotion wheel
Shame	Single item	Part of the Geneva emotion wheel
Disappointment	Single item	Part of the Geneva emotion wheel
Fear	Single item	Part of the Geneva emotion wheel
Disgust	Single item	Part of the Geneva emotion wheel
Contempt	Single item	Part of the Geneva emotion wheel
Hate	Single item	Part of the Geneva emotion wheel
Anger	Single item	Part of the Geneva emotion wheel
OJS	Organisational Justice Scale	Latent variable for organisational justice
OJ1	Item 1 of the OJS-8	I was able to express my views and feelings
OJ2	Item 2 of the OJS-8	I feel that I was treated consistently
OJ3	Item 3 of the OJS-8	Things were handled in a way that was free of bias
OJ4	Items 4 and 5 of the OJS-8	Everyone was treated with dignity and respect
OJ5	Item 6 of the OJS-8	I was communicated with in an appropriate manner
DistJ	Items 7 and 8 of the OJS-8	I feel that I get as much out of this as I put in
SERS	Social Exchange Relationship Scale	Latent variable for social exchange relationship
SE1	Item 1 of the SERS	Relationship characterised by mutual obligation
SE2	Item 2 of the SERS	Relationship characterised by mutual trust
SE3	Item 3 of the SERS	Relationship characterised by mutual commitment
SE4	Item 4 of the SERS	Relationship characterised by mutual significance
TIS6	Turnover Intention Scale	Latent variable for turnover intention
TI1	Item 1 of the TIS6	Frustration with not achieving work related goals
TI2	Item 2 of the TIS6	I have often considered leaving my job
TI3	Item 3 of the TIS6	I'm likely to accept another job at the same money
TI4	Item 4 of the TIS6	My current job is satisfying my personal needs
TI5	Item 5 of the TIS6	I often look forward to another day at work
TI6	Item 6 of the TIS6	I often dream about a job that suits me better

11.2.3. Appendix to Hypothesis 9: The relationship between justice and both social exchange relationship quality and turnover intention is mediated by participants' emotions.

The following summary provides additional detail related to Hypothesis 9. In this section a summary of the specific emotions which mediate the relationships between justice and social exchange relationship quality, and justice and turnover intention is provided in Tables 61 and 62. As with the analysis in Section 7.15 in the main text, this analysis was generated using the PROCESS Method (CI = 95%, number of bootstrap samples = 5000) for SPSS (version 3.4, Hayes, 2017). Paths in the analysis in Table 61 and 62 are consistent with Figures 42 and 43 below.

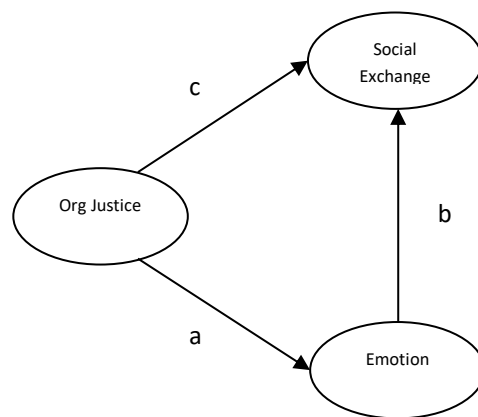


Figure 44. Paths considering justice-emotion-social exchange relationships

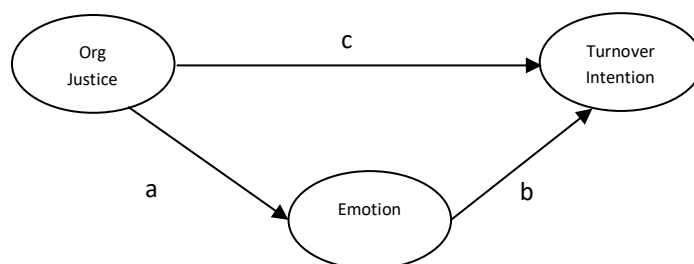


Figure 45. Paths considering justice-emotion-turnover intention relationships

Table 61.

*Mediating effects of distinct emotions on justice and turnover intention for all events.*

Relationship	R <sup>2</sup>	Coeff path a	Coeff path b	Coeff path c (Direct Effect)	Indirect Effect	Boot SE	BootLLCI (95%CI)	BootULCI (95% CI)	Comment
OJS – Interest – TIS6	.254**	0.155**	-0.018	-0.487**	-0.003	0.004	-0.010	0.004	No Mediation
OJS – Amusement – TIS6	.254**	0.104**	-0.004	-0.490**	0.000	0.002	-0.005	0.004	No Mediation
OJS – Pride – TIS6	.254**	0.255**	0.032	-0.498**	0.008	0.005	-0.001	0.018	No Mediation
OJS – Joy – TIS6	.255**	0.050**	-0.080*	-0.486**	-0.004	0.002	-0.008	-0.001	Mediation
OJS – Pleasure – TIS6	.254**	0.213**	0.021	-0.494**	0.004	0.004	-0.005	0.013	No Mediation
OJS – Contentment – TIS6	.254**	0.029**	-0.079	-0.488**	-0.002	0.002	-0.006	0.001	No Mediation
OJS – Admiration – TIS6	.255**	0.022**	-0.134*	-0.487**	-0.003	0.001	-0.006	-0.001	Mediation
OJS – Relief – TIS6	.254**	0.021*	0.057	-0.491**	0.001	0.001	-0.001	0.003	No Mediation
OJS – Compassion – TIS6	.254**	0.001	-0.056	-0.490**	0.000	0.000	-0.001	0.000	No Mediation
OJS – Sadness – TIS6	.255**	-0.013*	0.131*	-0.488**	-0.002	0.001	-0.004	-0.001	Mediation
OJS – Guilt – TIS6	.254**	-0.012*	0.113	-0.489**	-0.001	0.001	-0.004	0.001	No Mediation
OJS – Regret – TIS6	.254**	-0.023**	-0.023	-0.491**	0.001	0.001	-0.002	0.004	No Mediation
OJS – Shame – TIS6	.254**	-0.024**	0.059	-0.489**	-0.001	0.002	-0.005	0.002	No Mediation
OJS – Disappointment – TIS6	.254**	-0.278**	0.024	-0.483**	-0.007	0.006	-0.017	0.005	No Mediation
OJS – Fear – TIS6	.254**	-0.071**	0.024	-0.488**	-0.002	0.002	-0.006	0.003	No Mediation
OJS – Disgust – TIS6	.254**	-0.091**	0.041	-0.486**	-0.004	0.003	-0.010	0.003	No Mediation
OJS – Contempt – TIS6	.255**	-0.055**	-0.093	-0.495**	0.005	0.004	-0.001	0.013	No Mediation
OJS – Hate – TIS6	.254**	-0.014**	0.015	-0.490**	-0.002	0.001	-0.001	0.001	No Mediation
OJS – Anger – TIS6	.254**	-0.559**	0.022	-0.478**	-0.012	0.011	-0.034	0.010	No Mediation

Note: N = 599, \*p < .05. \*\*p < .01.

Table 62.

*Mediating effects of distinct emotions on justice and social exchange relationship quality for all events.*

Relationship	R <sup>2</sup>	Coeff path a	Coeff path b	Coeff path c (Direct Effect)	Indirect Effect	Boot SE	BootLLCI (95%CI)	BootULCI (95% CI)	Comment
OJS – Interest – SERS	.235**	0.155**	0.008	0.357**	0.001	0.003	-0.004	0.006	No Mediation
OJS – Amusement – SERS	.236**	0.104**	0.036*	0.355**	0.004	0.002	-0.001	0.008	No Mediation
OJS – Pride – SERS	.239**	0.255**	0.050**	0.346**	0.013	0.004	0.006	0.020	Mediation
OJS – Joy – SERS	.239**	0.050**	0.103**	0.354**	0.005	0.002	0.002	0.008	Mediation
OJS – Pleasure – SERS	.236**	0.213**	-0.016	0.362**	-0.003	0.004	-0.011	0.004	No Mediation
OJS – Contentment – SERS	.236**	0.029**	0.071	0.357**	0.002	0.001	-0.001	0.004	No Mediation
OJS – Admiration – SERS	.236**	0.022**	0.046	0.358**	0.001	0.001	-0.001	0.003	No Mediation
OJS – Relief – SERS	.236**	0.021*	0.051*	0.358**	0.001	0.001	0.001	0.002	Mediation
OJS – Compassion – SERS	.235**	0.001	0.063	0.359**	0.000	0.000	0.000	0.000	No Mediation
OJS – Sadness – SERS	.238**	-0.013*	-0.134*	0.357**	0.002	0.001	0.001	0.004	Mediation
OJS – Guilt – SERS	.235**	-0.012*	-0.013	0.359**	0.000	0.001	-0.001	0.001	No Mediation
OJS – Regret – SERS	.236**	-0.023**	-0.060	0.357**	0.001	0.001	0.000	0.003	No Mediation
OJS – Shame – SERS	.236**	-0.024**	-0.043	0.358**	0.001	0.001	-0.001	0.002	No Mediation
OJS – Disappointment – SERS	.241**	-0.278**	-0.070**	0.339**	0.019	0.004	0.012	0.027	Mediation
OJS – Fear – SERS	.236**	-0.071**	-0.066	0.354**	0.005	0.002	0.001	0.009	Mediation
OJS – Disgust – SERS	.236**	-0.091**	-0.063	0.353**	0.006	0.002	0.001	0.011	Mediation
OJS – Contempt – SERS	.236**	-0.055**	-0.039	0.357**	0.002	0.002	-0.001	0.006	No Mediation
OJS – Hate – SERS	.235**	-0.014**	0.006	0.359**	0.000	0.000	-0.001	0.001	No Mediation
OJS – Anger – SERS	.241**	-0.559**	-0.061**	0.325**	0.034	0.008	0.019	0.050	Mediation

Note: N = 599, \*p < .05. \*\*p < .01.

*This page represents the end of this thesis.*